Section R
Medical Conditions and Syndromes

Angelman Syndrome

Introduction:

The International Angelman Syndrome Organization was founded in 1998 as a world- wide organization national Angelman Syndrome Associations. Angelman is a congenital (present at birth) genetic condition that is caused by various genetic mechanisms. Although the mechanisms vary in their etiology and recurrence risks, all cause the absence of proper expression of the disease gene called UBE3A from the maternally inherited chromosome 15.

UBE3A gene---A gene that has been shown to be disrupted in some children with Angelman syndrome. The precise function of this gene is not yet known but it is presumed to affect the function of ubiquitin in the brain.

Ubiquitin is a small molecule that is present inside all cells. It can be attached to molecules that are old and ready to be degraded or that need to be removed for whatever reason. This removal system is called the ubiquitin degradation pathway. The Angelman gene, UBE3A, is a component of this ubiquitin pathway but it remains unclear exactly how or if this gene helps degrade proteins in the brain.

Features and characteristics that are usually present:

Characteristic symptoms
• delayed motor development, such as delay in sitting, crawling and walking
• speech problems
• jerky, puppet-type movements
• stiff-legged walking style
• hand flapping
• hyperactive behavior
• loving, happy and social demeanour
• a child easily moved to laughter
• intellectual disability, a child with Angelman syndrome will have delayed development in all areas, and disability is severe in most cases

Symptoms that are sometimes present
• small head
• characteristic EEG (brainwave) abnormalities
Characteristic Physical Features:
(are not always obvious at birth but evolve during childhood)
- flattened back of head
- deep set eyes
- wide, ever-smiling mouth
- prominent jaw and widely spaced teeth
- lightly pigmented hair, skin and eyes

Typical Behavior Problems:
(some of the common problems include)
- feeding difficulties
- disturbed sleep
- delayed toilet training

Diagnosis:

Diagnosis methods include checking for the clinical features of Angelman syndrome and performing DNA tests. A.S. could be mistaken for autism because of similar problems including hyperactive behavior, speech problems and hand flapping. It is important that the child is carefully diagnosed, because sometimes A.S. and autism are both present and it could also include Rett syndrome, Lennox Gastaut syndrome and non-specific cerebral palsy.

Treatment Options:
There is no cure for Angelman syndrome, but the child can benefit from a range of treatments for some symptoms including:
- speech therapy
- behavior modifications
- communication therapy
- occupational therapy
- physical therapy
- special educational
- social skills training
- anti-epileptic medication

Children with Angelman syndrome can expect a normal lifespan.

Support for Parents include:
- support organizations, such as the Australian Angelman Syndrome Association
- genetic counseling
- family therapy
- respite care
Where to get help:
  • your doctor
  • angelmansyndrome.org

Things to remember:
  • Angelman syndrome is a neurological disorder caused by a missing section of chromosome 15
  • common characteristics include intellectual disability, delayed speech or no speech at all, jerky walking style and happy demeanour
  • there is no cure but the child can benefit from treatment including physical therapy, special education and behaviour modifica

Recommendations:
  • Classroom adaptations/modifications
  • Program adaptations/modifications
  • Augmentative Equipment

For further recommendations go to www.angelmansyndrome.org
Introduction:

Childhood Apraxia of Speech (CAS) is a motor speech disorder. Children with CAS have problems saying sounds, syllables, and words. This is not because of muscle weakness or paralysis. The brain has problems planning to move the body parts (e.g., lips, jaw, tongue) needed for speech. The child knows what he or she wants to say, but his/her brain has difficulty coordinating the muscle movements necessary to say those words.

Some signs or symptoms of childhood apraxia of speech
Not all children with CAS have the same signs or symptoms. All of the signs and symptoms listed below may not be present in every child. It is important to have your child evaluated by a speech-language pathologist (SLP) who has knowledge of CAS to rule out other causes of speech problems.

General things to look for include the following:

A Very Young Child
• Does not coo or babble as an infant
• First words are late, and they may be missing sounds
• Only a few different consonant and vowel sounds
• Problems combining sounds; may show long pauses between sounds
• Simplifies words by replacing difficult sounds with easier ones or by deleting difficult sounds (although all children do this, the child with apraxia of speech does so more often)
• May have problems eating

An Older Child
• Makes inconsistent sound errors that are not the result of immaturity
• Can understand language much better than he or she can talk
• Has difficulty imitating speech, but imitated speech is more clear than spontaneous speech
• May appear to be groping when attempting to produce sounds or to coordinate the lips, tongue, and jaw for purposeful movement
• Has more difficulty saying longer words or phrases clearly than shorter ones
• Appears to have more difficulty when he or she is anxious
• Is hard to understand, especially for an unfamiliar listener
• Sounds choppy, monotonous, or stresses the wrong syllable or word

Potential Other Problems
• Weakness of the lips, jaw, and/or tongue
• Delayed language development
• Other expressive language problems like word order confusions and word recall
• Difficulties with fine motor movement/coordination
• Over sensitive (hypersensitive) or under sensitive (hyposensitive) in their mouths (e.g., may not like toothbrushing or crunchy foods, may not be able to identify an object in their mouth through touch)
• Children with CAS or other speech problems may have problems when learning to read, spell, and write

Diagnosis

An audiologist should perform a hearing evaluation to rule out hearing loss as a possible cause of the child's speech difficulties. A certified-SLP with knowledge and experience with CAS conducts an evaluation. This will assess the child's oral-motor abilities, melody of speech, and speech sound development. The SLP can diagnose CAS and rule out other speech disorders, unless only a limited speech sample can be obtained making a firm diagnosis challenging.

An oral-motor assessment involves:
• checking for signs of weakness or low muscle tone in the lips, jaw, and tongue (dysarthria)
• seeing how well the child can coordinate the movement of the mouth by having him or her imitate nonspeech actions (e.g., moving the tongue from side to side, smiling, frowning, puckering the lips)
• evaluating the coordination and sequencing of muscle movements for speech while the child performs tasks such as the diadochokinetic rate, which requires the child to repeat strings of sounds (e.g., puh-tuh-kuh) as fast as possible
• examining rote abilities by testing the child's skills in functional or "real-life" situations (e.g., licking a lollipop) and comparing this to skills in nonfunctional or "pretend" situations (e.g., pretending to lick a lollipop)

A melody of speech (intonation) assessment involves:
• listening to the child to make sure that he or she is able to appropriately stress syllables in words and words in sentences
• determining whether the child can use pitch and pauses to mark different types of sentences (e.g., questions vs. statements) and to mark off different portions of the sentence (e.g., to pause between phrases, not in the middle of them)

A speech sound (pronunciation of sounds in words) assessment involves:
• Evaluating both vowel and consonant sounds Checking how well the child says individual sounds and sound combinations (syllables and word shapes)
• Determining how well others can understand the child when they use single words, phrases, and conversational speech.
• An SLP may also examine the child's receptive and expressive language skills and literacy skills to see if there are co-existing problems in these areas.

Treatments available for children with apraxia of speech

Research shows the children with CAS have more success when they receive frequent (3-5 times per week) and intensive treatment. Children seen alone for treatment tend to do better than children seen in groups. As the child improves, they may need treatment less often, and group therapy may be a better alternative.

The focus of intervention for the child diagnosed with CAS is on improving the planning, sequencing, and coordination of muscle movements for speech. Isolated exercises designed to "strengthen" the oral muscles will not help without a combined focus on speech production. CAS is a disorder of speech coordination, not strength.

To improve speech, the child must practice speech. However, getting feedback from a number of senses, such as tactile "touch" cues and visual cues (e.g., watching him/herself in the mirror) as well as auditory feedback, is often helpful. With this multi-sensory feedback, the child can more readily repeat syllables, words, sentences and longer utterances to improve muscle coordination and sequencing for speech.

Some clients may be taught to use sign language or an Augmentative or Alternative Communication device (e.g., a portable computer that writes and/or produces speech) if the apraxia makes speaking very difficult. Once speech production is improved, the need for these systems may lessen, but they can be used to support speech or move the child more quickly to higher levels of language complexity.

Practice at home is very important. Families will often be given assignments to help the child progress and allow the child to use new strategies outside of the treatment room, and to assure optimal progress in therapy.

One of the most important things for the family to remember is that treatment of apraxia of speech takes time and commitment. Children with CAS need a supportive environment that helps them feel successful with communication. For children who also receive other services, such as physical or occupational therapy, families and professionals need to schedule services in a way that does not make the child too tired and unable to make the best use of therapy time.

Attachment Spectrum of Disorders

Introduction:
A child who has an attachment disorder will display startling and bizarre behaviours. The child will also lack a conscience for his/her actions. What he/she wants at that moment is what guided the child. Regard for how his/her behaviour impacts on others is non-existent. A child with an attachment disorder is manipulative and self-centered with severe self-control difficulties.

Symptoms include:
- not being able to form close relationships with others
- low self esteem
- a lack of trust of others
- failure to respond to others
- indiscriminate social behaviour

Characteristics are:
- Lack of reciprocity—do not seem genuine in their expression of affection
- Aggressive behaviour—helps to keep others at a distance
- Control Battles—have a need to exert control over his/her environment and will be unwilling to follow any directions given
- Chronic Anxiety—do not feel secure about being cared for and does not feel worthwhile
- Delayed Conscience Development—have not learned right from wrong/truth is not valued or important and demonstrates little or no remorse when caught misbehaving
- Indiscriminate Affection—demonstrate affection to people who are virtual or complete strangers and the displays of affection may have a seductive quality about them
- Lack of Self-Awareness—are unaware of his/her own physical and emotional needs and have not learned the basic pattern of cause and effect
- Over-Competency—prefer to take care of his/herself and attempt tasks beyond what would normally be expected for his/her age level
- Poor Eye Contact—make little direct eye contact when interacting with others or uses the sidelong glance instead
- The Two-and Twenty Syndrome—appear at times too old for his/her age and at other times act too young or immature
- Withdrawal—physically cringe or try to avoid physical closeness or puts “a shield around him/her”
- Poor Social Relationships—continue in his/her “babyish” ways, act self-centered and impulsive
Strategies for Attachment Disorders:

- Establish Eye Contact—insist that the child maintain normal eye contact during conversation (When very angry or manipulating someone, eye contact is excellent and will attempt to control the situation by starting a ‘staring match’)
- Establish who is “Boss”—remind him/her in a calm, firm, controlled voice that the teacher is the boss when the child is trying to manipulate
- Recognize the child’s subtle attempts to remain in control—acknowledge each completed portion of work as the child finishes it
- Win all control battles—structure all of the child’s choices so that the teacher remains in control ie. if you want the child to take his coat outside on a cold day, ask him/her, “Do you want to wear your coat or carry it?”
- Recognize good and poor decisions—relate what a child does back to his/her ability to make decisions whether they were good or bad ie. I see you made a good decision to finish your math.” or “I see you chose to not finish your work today. You may finish it at recess. Better luck next time.”
- Allow the child to accept responsibility—look for creative ways to allow the child to experience the natural consequences of his/her actions
- Be consistent—do not allow the child any slack (confront each misbehaviour and praise each good behaviour)
- Remain calm—model and verbalize appropriate behaviours
- Document interactions and observations of the child— is necessary to remain objective if the child accuses parents, teachers, or classmates of abuse
- Request help—utilize all sources of assistance

References:
Autism Society Manitoba, Solving the Puzzle Together (brochure), Winnipeg, MB
Attention Deficit Hyperactivity Disorder (ADHD)  
Attention Deficit Disorder (ADD)

Introduction:

ADHD—Attention Deficit Hyperactivity Disorder is characterized by problems with impulsivity, lack of concentration, excessive hyperactivity, students many also have difficulty initiating tasks, completing them, following multi step instructions, planning — The reasons that stimulant medication may be helpful for these children is because of “decreased Neuro-chemical activity in the frontal cortex of the brain." Packer and Pruitt from lecture, Winnipeg 2002

ADD Attention Deficit Disorder is characterized by poor concentration, short attention span, daydreaming.

Features and characteristics:
• Developmental delays—may have uneven developmental patterns
• Behavior Uniqueness—may be overly sensitive to sight, sound touch, excessive movement, unable to focus, impulsivity and short attention span, may also have co related conditions of OCD and Tourrets, and may struggle with issues such as reading writing due to dyslexia.
• Movement/Balance Disorder—often fine motor skills can be challenged due to this conditions and gross motor development can also be affected.

Diagnosis:
Many psychologists will identify symptoms of ADHD through formal testing and informal screening tools such as the Connors Screening Tool for ADHD. The actual diagnosis is done by a medical doctor, usually a pedestrian if the students are younger. If possible referral to a Psychiatrics can be very helpful in making the accurate diagnoses.

Recommendations:
Strategies for Dealing with High Activity Level
• Allow a physical outlet for excessive energy
• Provide a safe place for the child to go when he is overwhelmed ie. A calm down tent or a quiet room in the school
• Allow children to foot or pen tap when trying to focus attend or listen
• Allow for activities which work the large and small muscles
• Enlist the child as the classroom helper - carrying heavy books to the library
• Teach the child to channel his/her high activity without disturbing others
• Traditional drumming and dancing
• Encourage frequent kinesthetic activities i.e. use the gym teacher
• Include movement in learning as much as possible
• Allow for oral motor activities
• Pushing a broom down the hall
• Use of hand held manipulatives
• Facilitate calming by creating a womb-like environment: dark, quiet, and confined with gentle movement
• Shoveling snow
• Doing jumping jacks
• Pulling a weighted sled
• Use a sit and scoot cushion
• Do not take gross motor opportunities away as a punishment
• Allow for frequent breaks to release restlessness
• At times, allow standing during seat work, especially at the end of a task
• Encourage activities which also strengthen large and small muscles ie. push and pull games, manipulating resistant hand held materials
• Use the “How Does Your Engine Run” program
• Some children do need medication

Strategies for helping children focus:
• Allow for oral motor activities
• Allow for hand held manipulatives
• Reduce visual stimulation
• Reduce auditory stimulation
• Present only one task/activity at a time
• Reduce clutter in the classroom.
• Use content which interests the child
• Acknowledge that the child may need extra help
• Allow for the child to do his her work in a low stimulation area inside and at times, outside of the room
• Use portable study carols
• Allow for kinesthetic opportunities throughout the day
• Cut down on classroom interruptions

Strategies for helping with organization:
• Give frequent verbal reminders
• Implement routine reminders with visual/pictorial cues
• Use concrete visual cues ie) egg timers, buzzers, digital clocks
• Implement a buddy system
• Use color coded systems for different subjects
• Use picture calendars for daily and weekly schedules
• Use picture mapping
• Break down activities into small steps
• Use pictorial symbols for letters and words
• Repeat things over and over
• Always check for comprehension
• Understand the concept of providing an “external brain”
• When helping children recall information ensure that the child has consistent visual prompts
• Have consistency from day to day and year to year.
• Have aids consistent from year to year.
• Understand that these children can have good day and bad days
• Let children use calculators
• Ask the child, “How are we going to remember this?”

Resources:

Amen, Daniel G., 1995, Screening Tool for ADHD in Adults
Fowler, Mary, 2002, Attention Deficit Hyperactivity Disorder (PDF File)
National Institute of Mental Health, 2003, Attention Deficit Hyperactivity Disorder (PDF File)
Packer, Leslie E., 2005, Attention Deficit Hyperactivity Disorder: Differential Diagnoses, Comorbidity, and Prognosis
Packer, Leslie E., 2004, Treatment of ADHD
Packer, Leslie E., 2004, Safety and Accident Risks in ADHD
Packer, Leslie E., 2004, ADDults: ADHD in Adulthood
Webb, James T., 2000, Mis-diagnosis and Dual Diagnosis of Gifted Children: Gifted and LD, ADHD, OCD, Oppositional Defiant Disorder (PDF File)
Auditory Processing Disorder

Introduction:

Research in the areas of audiology, speech-language pathology, psychology, neurology, and learning have helped to sort out the critical aspects of Processing Disorders, although not all the answers are available yet.

Processing is the ability to interpret or attach meaning to auditorily received information, to then formulate an expressive response. People with processing disorders have normal intelligence, normal hearing acuity, and approximately age-commensurate performance on receptive and expressive vocabulary development. Processing deficits are subtle, and eventually result in academic problems in reading, spelling, or other learning areas.

A Central Auditory Processing disorder involves an auditory stimulus that becomes distorted or compromised in some way before the brain has received it to act upon. If certain acoustic feature of the signal cannot be perceived accurately (auditory discrimination), then the breakdown is probably in the overlap transition area of Heschl’s gyrus in the cortex.

Characteristics of Central Auditory Processing Disorders
- Majority of cases are male (75%)
- Normal pure-tone hearing results
- Difficulty following oral directions; inconsistent response to auditory stimuli
- Short auditory attention span; fatigues easily during auditory tasks
- Poor short-term and long-term memory
- Gives impression of not listening even though looking at the speaker; daydreams
- Difficulty listening in presence of background noise
- Difficulty localizing sound
- Academic deficits (phonics, reading, or spelling) and mild speech-language impairments
- Disruptive behaviors – distracted, impulsive, frustrated
- Frequent requests for verbal repetition or often say “huh?”
- History of otitis media

Characteristics of Language Processing Disorders
- Problems with retrieval of common words
- Use of neutral, generic, or less-specific labels
- Misuse of words with a similar phonetic structure
- Generating creative, original language terms; use of descriptions or circumlocutions
• Response latency; use of fillers to buy time
• Frequent “I don’t know” or “I forgot” responses
• Verbal repetition or rehearsal
• Inconsistency in learning; requires extensive review of previously learned material
• Recognize language errors but can’t fix them
• Incomplete sentences or thoughts
• Pragmatic problems; disruptive behavior
• Age-commensurate IQ and vocabulary with academic deficits; learning disability label

Processing Assessment
Central auditory processing assessment is the responsibility of audiologists; language processing is the responsibility of speech-language pathologists. The best assessment procedures are usually multi-disciplinary with input from the fields of psychologist, audiologist and speech-language pathologist. While audiologists are responsible for central auditory processing (CAP) assessment, speech-language pathologists are usually charged with providing therapy for central auditory processing disorders (CAPD).

Remediation for Auditory Processing Disorders
• Teacher Modification Strategies for CAPD
  • Amplify the auditory signal.
  • Reduce extraneous background noises.
  • Allow preferential seating to maximize auditory and visual signals.
  • Simplify verbal instructions; include only pertinent content.
  • Insure the child’s attention before beginning verbal instruction.
  • Restate, paraphrase, and emphasize important information.
  • Monitor use of rate, inflection, gestures, etc., to enhance clarity of verbal presentation.
  • Use visual materials and physical demonstration to supplement auditory instruction.
  • Ask questions to check comprehension of material presented.
  • Use a peer-pairing or buddy system to check notes, assignments, etc.

Student Modification Strategies for CAPD
• Watch and use visual cues to supplement auditory information.
• Listen for meaning rather than word-for-word repetition.
• Use the rehearsal technique of repeating information to compensate for poor memory.
• Desensitize to background noise.
• Learn to concentrate carefully on the speaker.
• Paraphrase and check comprehension frequently.
• Ask clarification questions rather than open-ended questions.
• Use peers to check notes and assignments when given.
• Tape record to provide redundancy for lecture presentations.
• Maintain a positive attitude and an active learner role.
• Remediation for Language Processing Disorders

Teacher Compensatory Strategies for LPD
• Introduce information using a multimodality approach for sensory stimulation.
• Supplement auditory information with visual materials.
• Introduce new material in a context-rich, associative environment.
• Provide cues, prompts, or hints to help focus students and facilitate retrieval.
• Allow “thinking time”; monitor external pressure when latencies occur.
• Limit timed activities or performance task; allow extra time.
• Shorten length of assignments to focus on accuracy rather than efficiency.
• Vary the types of responses expected on exams and in class discussions.
• Refresh stimuli with repetition, rephrasing, and expansion clarifications.
• Teach with stories and examples to associate main points of auditory information.

Student Compensatory Strategies for Language Processing Disorders
• Request additional time when you need it.
• Request cues, prompts, and associative information.
• Ask specific questions rather than generic questions.
• Apply strategies taught in therapy that work to facilitate retrieval.
• State what you do know, then the source of confusion.
• Tape record lectures to provide repetition or a more permanent record.
• Use rehearsal, paraphrasing, and writing key words to keep processing on track.
• Be an active learner rather than a passive learner.
• Be patient; take your time, and don’t give up or become frustrated.
• Seek out study buddies to check information.

Resource:
Autism Spectrum Disorder (ASD)

Introduction
Autism Spectrum Disorders (ASD) are lifelong developmental disabilities that impact how individuals understand what they see, hear and sense. These misunderstandings result in difficulties with social relationships, effective communications and appropriate behaviours.

The cause or causes of ASD is not fully known. But studies have revealed a male-to-female ratio between 4:1 to 5:1.

ASD is considered a spectrum disorder since the symptoms can be present in a variety of combinations; can range in severity from mildly to profoundly disabling, and may accompany other disabilities. Some individuals with ASD have normal levels of intelligence, while most individuals have some level of intellectual disability, also ranging from mild to severe. This range is often referred to as high-functioning ASD to low-functioning ASD.

Because there is also a range of difficulties in expressive and receptive language and communication, a high proportion of individuals with ASD (estimation of 50%) do not develop functional speech. For those individuals who do, speech may have unusual qualities and limited communicative functions.

Individuals with ASD also display difficulties with social interaction and appropriate behavior. But the extent and type of difficulty varies. Some individuals may be withdrawn, while others may be overly active, approaching people in socially-awkward ways. ASD individuals may display selective attention, resistance to change, limited interests or obsessive behaviours. They often respond to sensory stimuli in a non-typical manner and may exhibit unusual physical behaviours ie. hand flapping, spinning or rocking. The individuals may also use objects in unconventional ways and also demonstrate an unusual attachment toward specific objects.

Diagnosis:

There is no definitive medical test to identify autism spectrum disorders. The diagnosis can be made by either a pediatrician, child psychiatrist or clinical psychologist with expertise in the area of autism spectrum disorders. The diagnosis of ASD is determined by the presence or absence of certain behaviours, characteristic symptoms and developmental delays.
**Autistic Disorder**

Some of the characteristics/symptoms are:
- a marked lack of awareness of the existence or feelings of others
- atypical seeking of comfort at times of distress
- atypical imitation
- unusual social play
- a limited ability to form friendships with peers
- significant limitations in verbal and non-verbal communication
- limited receptive communication
- limited expressive communication
- a restricted repertoire of activities
- stereotyped and repetitive body movements
- a persistent preoccupation with parts of objects or attachments to unusual objects
- a markedly restricted range of interests or a narrow preoccupation with one interest
- difficulties with attention and motivation
- a need to follow routines in precise detail
- marked distress over changes in the environment

**Asperger’s Syndrome**

- shares many of the features of autism spectrum disorders
- demonstrates significant difficulties with respect to social interaction
- tends to display stereotypical behavior patterns
- is no clinically significant delays in early language development or significant delays in cognitive development as associated with ASD
- does not have the same degree of difficulty in the development of age-appropriate self-help skills, adaptive behavior and curiosity about the environment in childhood as those with ASD

**Rett’s Disorder**

- occurs only in females
- is characterized by the development of significant deficits following a period of at least five months of normal development
- tends to display repetitive hand wringing movements
- often has difficulty using her hands in a purposeful manner
- tends to be a deceleration of head growth and motor coordination issues
- also displays severe communication and social interaction impairments
Childhood Disintegrative Disorder

- is characterized by regression, following a period of at least two years of normal development, in multiple areas:
  - expressive/receptive language
  - social skills
  - adaptive behavior
  - play skills
  - motor skills
  - and/or bowel/bladder control
- also have significant communication deficits, social interaction impairments, and restricted, repetitive and stereotyped behaviours and interests
- is also referred to as Heller’s Syndrome
- is much less common than Autistic Disorder

Pervasive Developmental Disorder Not Otherwise Specified (PDD-NOS)

- symptoms are similar to, but not identical to, those displayed by people with ASD
- symptoms developed later than the diagnostic criteria stipulate for ASD or the symptoms that are not outlined in the diagnostic criteria
- symptoms can be significant social or communication impairments, stereotyped behaviours or interests, but who do not meet the criteria for any other Pervasive Developmental Disorder (PDD)

General Strategies:

1. Instruction should emphasize:
   - paying attention
   - imitating
   - comprehending words and instruction
   - using language for social reasons
   - developing functional communication

2. Information and instructional activities should be provided in a format that:
   - is clear and concise
   - is consistent with comprehension level
   - focuses their attention
   - emphasizes the most relevant information
3. Sensory Responses must be continually monitored:
   - Assess sensory responses.
   - Be aware of different experiences of sensory stimulation.
   - Use alerting strategies to help enhance students when hyposensitive.
   - Implement strategies to calm students when hypersensitive.

4. Reduce student’s anxiety levels that often initiate inappropriate behavioural responses:
   - Provide warnings about transitions and changes.
   - Provide daily and weekly schedules.
   - Use social scripts to encourage calming and teach coping skills.
   - Provide facts about anxiety-arousing situations.
   - Establish a calming area

Structuring Environment/Classroom:
1. Structure the classroom (universal design)
   - Placement of furniture
   - Quiet area

2. Attend to sensory issues
   - Lighting
   - Noise levels
   - Textures

3. Organize materials
   - Accessibility
   - Coding
   - Grouping

4. Use job cards

   JOB CARD

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   1. Ask me
   2. I don’t know
   3. I don’t understand
   4. I don’t know
5. Provide routines
   - Regular
   - Predictable

a. Planning a Routine—
   o What is the routine
   o Purpose of the routine
   o Task analysis of the routine
   o How will the routine be taught
     ■ visuals
     ■ written directions
     ■ backwards or forward chaining
   o Write or sketch the routine

b. Forms of communication—
   o Speech/vocalization
   o Sign language
   o Body language
   o Pictures
   o Written language
   o Behaviour

5. Use desk strips
6. Use schedules

7. Introduce changes gradually using one of the following techniques:

a. Task Analysis—
   o Breaking a large task into smaller sub-skills
   o Teaching and reinforcing sub-skills
   o Forward chaining
     ■ teaching each sub-skill in sequence
   o Backward chaining
     ■ last step in sub-skill taught first

b. Shaping Procedures—
   o Shaping behaviours reinforce approximations to the desired behaviour.
     Example: John will be reinforced when he plays for two minutes.
     John will be reinforced when he plays for four minutes.
     John will be reinforced when he plays for six minutes.
c. Discrete Trial Training—
   - Stimulus
   - Prompt
   - Response
   - Consequence
   - Inter-trial interval

8. Use written reminders

9. Use First/Then cards

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<th>First</th>
<th>Then</th>
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<td>Reading</td>
<td>Computer</td>
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Specific Strategies for:
1. Facilitate Communication:
   - Ensure that a communication system is in place.
   - Focus on developing interaction.
   - Use clear, concise language.
   - Allow time to process information.
   - Teach listening skills and check comprehension.
   - Use visual supports.
• Provide social scripts for spoken language.
• Teach subtleties of tone and intonation.

2. Social Skills
• Direct teaching
• Puppets/role-playing
• Cartooning
• Peer support
• Social scripts
  Example of social script:

3. Social stories
  a. Creating Social Stories—
     o Introduce changes and new routines.
     o Explain reasons for others’ behaviour.
     o Teach situation-specific social skills.
     o Assist in teaching new academic skills.
  b. Writing social stories:
     o Descriptive sentences
     o Directive sentences
     o Perspective sentence
     o Formula for writing social stories
2–5 descriptive or perspective statements
+ 1 directive statement

Examples of social stories:

Eating lunch at school:

- Sometimes I eat lunch at school. **(Descriptive)**
- People feel comfortable when I eat my food nicely. **(Perspective)**
- Other kids will think I’m friendly when I wait for them to sit down and get their lunch before I start eating. **(Perspective)**
- I will try to chew my food slowly with my mouth closed. **(Directive)**
- When I eat slowly with my mouth closed, people will be happy to sit at the same table with me. **(Perspective)**

Telling a Riddle to Someone

I look at the other person.

I ask, “Do you want to hear a joke?”

If they say, “Yes,” I start.

If it’s a riddle, I ask the question.

I wait for the other person to find an answer.

When the other person says, “I don’t know,” or doesn’t answer,

I tell them the answer.

When working with ASD students, positive reinforcers are the most effective.

There are six types of positive re-inforcers:

- Material reinforcers
- Primary/edible reinforcers
- Activity reinforcers
- Social reinforcers
• Sensory reinforcers
• Exchangeable reinforcers (token economy)

ASD Myths:

The following are common myths about autism spectrum disorders.

Myth #1:
All individuals with autism spectrum disorders avoid eye contact and social contact.

People with autism spectrum disorders are a diverse group, so it is difficult to use words such as "all" or "every" when describing those with the syndrome. Although social difficulties are a hallmark of the disorder, many individuals with autism spectrum disorders display some level of social interest and make some attempt to initiate social interactions on a frequent basis. Many individuals with autism spectrum disorders display affection and demonstrate a preference for social activities over solitary pursuits.

Myth #2:
People with autism spectrum disorders possess extraordinary skills or talents, e.g., are able to memorize facts, complete complex mental calculations or compose music.

The vast majority of people diagnosed with autism spectrum disorders do not possess genius abilities like the character depicted in the popular movie *Rainman*. However, most individuals with autism spectrum disorders display uneven or scattered skill development. As a result, some skills may stand out in relation to other skills.

Myth #3:
Autism spectrum disorders are caused by cold, distant parenting.

Although questions remain about the causes of autism spectrum disorders, it has been empirically demonstrated that parents of children diagnosed with autism spectrum disorders do not differ from parents of typical children. It is now generally accepted that autism spectrum disorders is neurological in origin and that children are born with the syndrome.

*Alberta Learning, Special Programs Branch. Teaching students with autism spectrum disorders.
References:


Autism FYI.Com. Does Your Child Suffer From Autism?


Mirenda, Dr Pat. Positive Behaviour Support & Individuals with Asperger Syndrome. University of British Columbia. 2008

Mirenda, Dr. Pat. A Picture is Worth a Thousand Words. University of British Columbia. 2008.

Cerebral Palsy (CP)

Introduction:

Cerebral Palsy is a disabling condition. "Cerebral" refers to the brain and "Palsy" refers to a lack of muscle control. CP is neither hereditary nor contagious. CP results from damage to the brain, usually caused by a lack of oxygen. The damage interferes with messages sent from the brain to the body or from the body to the brain and may cause involuntary movement and/or speech, hearing or sight disorders. CP is not progressive, nor is it medically curable. CP is not something an individual will "grow out of". But a positive attitude and acceptance of the condition by other will enhance the quality of life for the child with CP.

CP can vary from mild speech impairment or no obvious signs to no speech at all and a severe lack of muscle coordination. Many children with CP have normal learning skills and intellectual development and are able to care for themselves and to walk unaided. Other children with CP require very specialized treatment including multi-disciplinary care from doctors, occupational therapists, physical therapists, speech pathologists and resource teachers.

Features and characteristics:

There are three main types of CP:

1. Spastic—stiff and difficult movement, since muscles are contracted all the time and limbs feel stiff. (50% to 75% of cases)

2. Athetoid—involuntary and uncontrolled movement, as messages from the brain to the muscles are not coordinated. These movements occur all the time and may interfere with speech. (10% to 20% of cases)

3. Ataxic—disturbed sense of balance and depth perception, resulting in awkward and unsteady movements of the hands and feet. (5% to 10% of cases)

There may be a mixture of these types in any one individual diagnosed with CP. (10% of cases) In addition, the lower limbs or one side of the body may be affected more than the other.

Quadriplegia—when a child shows CP in all four of their limbs—both arms and both legs, it is called quadriplegia. Quad means four. Usually children with quadriplegia have trouble moving all the parts of their bodies, their face and trunk as well as their arms and legs, and may need a wheelchair to get around. Because of the problems controlling the muscles in their face and upper body, they also have trouble talking and eating.

Hemiplegia—means that the CP affected one side of the child's body. Hemi means half, so the right arm and leg or the left arm and leg are affected. The
other side of the child's body works just fine. Many kids with hemiplegia are able to walk and run, although they may look a little awkward or have a limp.

Diplegia—some children have CP just in their legs or the CP is much more severe in their legs than in their arms. This is called diplegia. Di means two, so in diplegia only the two lower limbs are affected. The difficulty for children with diplegia is using their legs, so walking and running may be hard for them. Because their upper bodies are usually not affected they have good ability to hold themselves upright and good use of their arms and hands. CP can occur in just the arms but not the legs but this is very, very rare.

Developmental Delays
- Deficits in school performance
- Deficits in higher level expressive language

Behaviour Uniqueness
- Spells of staring
- Inconsistent and uneven attention span

Absence of Speech
- Difficulty in speaking, swallowing and/or chewing
- Speech impairments which makes understanding difficult

Movement / Balance Disorder
- Spasmodic, uncontrolled or jerky movements of the limbs, head or face
- Rigid, postured limbs
- Contracted muscles (may not be able to get the foot flat, with heels down, when standing or walking)

Seizures
- About half of all children with CP have seizures
- Might stop moving, stare, fall down, or shake

Sensory Disorder
- Possible hearing loss that may result in delayed language development.
- Impairment of vision and perception. (Students with this difficulty may not be aware that what they are seeing is any different from what others see.)

Diagnosis
- It is the medical doctor that will diagnose CP.

Accommodations:

Classroom adaptations/modifications:
- Modify the classroom environment to accommodate the student's movement
• Become familiar with the student's primary and preferred methods of communication
• Schedule bathroom breaks for the student who needs assistance just before class breaks.
• Orient the student to the school eg. ramps, bathrooms, elevators.
• Learn the language of the student—body gesture, eye movements, and/or sound that many students with CP use to communicate.
• Tape lectures for students with poor motor skills

Program adaptations/modifications:
• Utilize assistive technology to achieve full participation in the classroom
• Make curriculum adaptations ie. fewer questions, longer time to complete tasks
• Allow students to tape record answers to tests or type answers, as needed.
• Writers should be provided for test-taking if the student is unable to write (or give oral tests out of the earshot of other students).
• Have Individual Transition Plans (ITP’s) from school-to-adult life include structured learning experiences, job sampling, career exploration and links to adult services
• Have Individualized Education Plans (IEP) include activities for daily living including
• travel options and prevention education
• Obtain support from other resources i.e. Cerebral Palsy Association

Augmentative Equipment:
• Wheelchairs
• Walkers
• Adapted Silverware
• Adapted pencils
• Book holders
• Page Turners
• Word Boards
• Adapted Desks
• Communication Aids
• Helmets
• Communication board with symbols, words, and letters on it
• Computerized communication device with a keyboard, digital display, and/or voice simulator
• Unicorn stick (strapped to the head) or other pointing device
What to expect of the child:

Planning
  • needs help organizing daily tasks and materials
  • difficulty in carrying out multi-step tasks

Spatial Memory
  • has difficulty navigating from point a to point b

Social Skills and Adaptive Behaviour
  • has difficulty with communicating and interacting with peers

Motor / Oral Motor Control
  • poor/delayed motor skills
  • poor/delayed speech

Resources:

Kathleen C. Borowitz, 1994, Children's Medical Center, University of Virginia
Neurology, Cerebral Palsy, www.neurologychannel.com/cerebralpalsy
Depression

Introduction:

Childhood and adolescent depression has increased dramatically in the past forty to fifty years. During childhood the number of boys and girls affected are almost equal. But in adolescence, as in adulthood, twice as many girls as boys are diagnosed with depression. Well over half of all depressed adolescents have a recurrence of depression within seven years. Children who suffer with major depression have an increased incidences of Bipolar Disorder and recurrent Major Depression.

As with adult depression, the symptoms are similar. The criteria for childhood and adult Major Depression are also the same. Because many children do not have the vocabulary to adequately express their feelings, they often express their feelings through behaviour. Also, younger children with depression are more likely to show phobias, separation anxiety disorder, somatic complaints and behaviour problems.

With psychotic depression, children are more likely to report hallucinations while older adolescents, like adults with psychotic depression, are more likely to have delusions. (Delusions require more advanced cognitive functioning than simple hallucinations)

Features and characteristics:

Preschool or young elementary age
The child might look serious or vaguely sick. He might be less bouncy or spontaneous. While other children would become tearful or irritable when frustrated, this child may show these states spontaneously. He may say negative things about himself and may be self-destructive.

Older elementary school through adolescence
The adolescent may present with academic decline, disruptive behavior, and problems with friends. Sometimes one can also see aggressive behavior, irritability and suicidal talk. The parent may say that the adolescent hates himself and everything else.

Diagnosis:
It usually takes more time to diagnose Major Depression in a child than it does to diagnose an adult. The diagnostic process should include interviews of parents and the child. Even if the child is only living with one parent, both parents should be interviewed. Parents are more likely to report outward signs of depression. There should also be a recent physical for the child. Although this is usually
done by the primary care physician, the psychiatrist may do a screening neurological and relevant parts of a physical exam.

The psychiatrist will ask about the developmental history and about the existence of other psychiatric conditions.

Recommendations:
There is no cookbook technique. Treatment must be tailored to the needs and schedule of the child and his family. Generally, with mild to moderate depression, one first tries psychotherapy and then adds an antidepressant if the therapy has not produced enough improvement. If it is a severe depression, or there is serious acting out, one may start medication at the beginning of the treatment.

Resources:

Down Syndrome

Introduction:

Down syndrome (DS), also called Trisomy 21, is a condition in which extra genetic material causes delays in the way a child develops, both mentally and physically. Down Syndrome is named after John Langdon Down, the first British doctor who first described the condition in 1887. It affects about 1 in every 800-1,000 live births.

The physical features and medical problems associated with Down syndrome can vary widely from child to child. While some Students with DS need a lot of medical attention, others lead healthy lives.

Though Down syndrome can't be prevented, it can be detected before a child is born. The health problems that can go along with DS can be treated, and there are many resources within communities to help Students and their families who are living with the condition.

Causes:

It wasn’t until 1959 that it was discovered that an extra chromosome was identified as the cause of Down Syndrome. Normally, at the time of conception a baby inherits genetic information from its parents in the form of 46 chromosomes: 23 from the mother and 23 from the father. In most cases of Down syndrome, a child gets an extra chromosome 21 — for a total of 47 chromosomes instead of 46. It's this extra genetic material that causes the physical features and developmental delays associated with DS.

Although no one knows for sure why DS occurs and there's no way to prevent the chromosomal error that causes it, scientists do know that women age 35 and older have a significantly higher risk of having a child with the condition. At age 30, for example, a woman has about a 1 in 900 chance of conceiving a child with
DS. Those odds increase to about 1 in 350 by age 35. By 40 the risk rises to about 1 in 100.

Effects:

Students with DS tend to share certain physical features such as a flat facial profile, an upward slant to the eyes, small ears, and a protruding tongue.

Low muscle tone is also characteristic of children with DS, and babies in particular may seem especially "floppy." Though this can and often does improve over time, most children with DS typically reach developmental milestones — like sitting up, crawling, and walking — later than other children. At birth, babies with DS are usually of average size, but they tend to grow at a slower rate and remain smaller than their peers. For infants, low muscle tone may contribute to sucking and feeding problems, as well as constipation and other digestive issues. Toddlers and older children may have delays in speech and self-care skills like feeding, dressing, and toilet teaching.

Down Syndrome affects a student’s ability to learn in different ways, but most have mild to moderate intellectual impairment. Students with DS can and do learn and are capable of developing skills throughout their lives. They simply reach goals at a different pace — which is why it's important not to compare a child with DS against typically developing siblings or even other children with the condition. Students with DS have a wide range of abilities, and there’s no way to tell at birth what they will be capable of as they grow up.

Strategies:

1. Inclusion

Students with special needs should be full members of age appropriate inclusion classes to the extent they can be. Effective inclusion means that the teacher must be fully supportive of the model. The strategies you use to reach and teach the student with Down Syndrome will often be beneficial to many learners in the classroom. An inclusive environment is less likely to stigmatize and provide a much more natural environment for the students. There are more opportunities for peer relationships to occur and much of the research states that full integration works better.

2. Self-Esteem
The physical characteristics of a student with DS will often result in a lowered self-esteem which means you will need to take every opportunity to boost self-confidence and foster self-worth through a variety of strategies.

3. Intellectual Concerns

Students with DS usually face many intellectual challenges. Strategies that work for mildly retarded students and or students with significant learning disabilities will also work with students with DS. Much literature has stated that most individuals with DS do not progress beyond the intellectual capabilities of a normal developing six to eight year old (Kliewer 1993). However, always strive to move the child progressively along the learning continuum and never assume the child isn't capable. Solid intervention and high quality instruction have been proven to lead to improved academic achievement for students with DS. Use a multi-modal approach, which works best for all students. Use as many concrete materials and real world authentic situations as possible. Use language appropriate for student understanding and speak slowly when necessary. Always break tasks into smaller steps and provide instruction for each step. Students with DS typically have good short term memories.

4. Dealing with Short Attention Spans

Students with DS may have difficulties with sustained attention span. Direct instruction in short periods of time along with smaller chunks of activities will help to support learning. Introducing new material slowly, sequentially and in a step by step fashion will help to ensure maximum learning occurs.

5. Dealing with Distractibility

Students with DS are often easily distracted. Employ strategies that work to minimize distractions such as keeping the student away from the window, using a slightly more structured environment, keeping the noise level down and having an orderly classroom where students are free from surprises and know what the expectations, routines, and rules are.

6. Speech and Language Issues

Students with DS experience serious problems such as hearing difficulties and articulation problems. Sometimes they will require speech/language intervention and a great deal of direct instruction. In some cases, augmentative or facilitated communication will be a good alternative for communication. Use patience and model appropriate interactions at all times.
7. Dealing with Behaviour Difficulties

Behaviour planning and discipline used for other students should not differ for the student with DS. Again, positive reinforcement is a much better method than punishment. Reinforcers need to be meaningful.

References:
http://specialed.about.com/od/disabilities/a/downs.htm
Dyslexia

Introduction

Dyslexia is a term described as having difficulty with words (Catts & Kamhi, 2005). One of the most common misunderstandings about this condition is that dyslexia is a problem of letter or word reversals (b/d, was/saw) or of letters, words, or sentences “dancing around” on the page (Rayner, Foorman, Perfetti, Pesetsky, & Seidenberg, 2001). In fact, writing and reading letters and words backwards are common in the early stages of learning to read and write among average and dyslexic children alike, and the presence of reversals may or may not indicate an underlying reading problem.

Dyslexia is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. (Lyon, Shaywitz, & Shaywitz, 2003).

Dyslexia is not caused by poverty, developmental delay, speech or hearing impairments, or learning a second language, although those conditions may put a child more at risk for developing a reading disability (Snow, Burns, & Griffin, 1998). It is a specific learning disability in reading that often affects spelling as well. In fact, reading disability is the most widely known and most carefully studied of the learning disabilities, affecting 80% of all those designated as learning disabled.

Characteristics

1. Problems with Reading (Decoding)

Children with dyslexia attempt to identify words they do not know but produce many errors. They are not accurate in using letter–sound relationships in combination with context to identify unknown words. These problems in word recognition are due to an underlying deficit in the sound component of language that makes it very difficult for readers to connect letters and sounds in order to decode. People with dyslexia often have trouble comprehending what they read because of the great difficulty they experience in accessing the printed words. The following are some common reading errors

- can read a word on one page, but won't recognize it on the next page.
- knows phonics, but can't—or won't—sound out an unknown word
- slow, labored, inaccurate reading of single words in isolation (when there is no story line or pictures to provide clues)

  - when they misread, they often say a word that has the same first and last letters, and the same shape, such as form-from or trial-trail

  - they may insert or leave out letters, such as could-cold or star-stair

  - they may say a word that has the same letters, but in a different sequence, such as who-how, lots-lost, saw-was, or girl-grill

- when reading aloud, reads in a slow, choppy cadence (not in smooth phrases), and often ignores punctuation

- becomes visibly tired after reading for only a short time

- reading comprehension may be low due to spending so much energy trying to figure out the words. Listening comprehension is usually significantly higher than reading comprehension.

- directionality confusion shows up when reading and when writing

  - b-d confusion is a classic warning sign. One points to the left, the other points to the right (left-right confused)

  - b-p, n-u, or m-w confusion. One points up, the other points down (also directionality confusion)

- Substitutes similar-looking words, even if it changes the meaning of the sentence, such as sunrise for surprise, house for horse, while for white, wanting for walking

- When reading a story or a sentence, substitutes a word that means the same thing but doesn't look at all similar, such as trip for journey, fast for speed, or cry for weep

- Misreads, omits, or even adds small function words, such as an, a, from, the, to, were, are, of

- Omits or changes suffixes, saying need for needed, talks for talking, or late for lately.

2. Problems with Fluent Word Recognition

Children with dyslexia have difficulties when asked to read text at their grade level. They will not be able to read as many of the words in a text by sight as average readers. There will be many words on which they stumble, guess at, or attempt to “sound out.”

3. Problems with Spelling (Encoding)

Children with dyslexia often have spelling that is far worse than their reading. They sometimes flunk inventive spelling. They have extreme difficulty with vowel
sounds, and often leave them out. The following are some common spelling difficulties:

- With enormous effort, they may be able to "memorize" Monday's spelling list long enough to pass Friday's spelling test, but they can't spell those very same words two hours later when writing those words in sentences.
- Continually misspells high frequency sight words (non-phonetic but very common words) i.e. they, what, where, does, because—despite extensive practice.
- Misspells even when copying something from the board or from a book.
- Written work shows signs of spelling uncertainty (i.e. numerous erasures, cross outs, etc.)

Associated Problems

- Memorization tasks i.e. the alphabet, multiplication tables
- Sequencing tasks i.e. learning to tie their shoes
- Difficulties with math i.e. learning to tell time on a clock with hands
- Directionality problems i.e. distinguishing left from right, over versus under, before versus after
- Confusing letter pairs i.e. b-d, b-p, p-q, or g-j – may write some letters or numbers backwards past the end of first grade
- Saying sounds in the right order in multi-syllable words (i.e. aminal for animal, bisghetti for spaghetti, hekalopter for helicopter, hangaberg for hamburger, mazageen for magazine, etc.)
- Handwriting - letters don’t sit on the line, there may be odd spacing between their words, tall letters are sometimes written as short ones, tails don’t always hang below the line, sentences often don’t start with capital letters, and punctuation is often left out
- Noticeable difference between the student's ability and his/her actual achievement
- Family history of learning difficulties
- Organizational tasks
- Difficulty following 2- or 3-step instructions.

Warning Signs (Susan Barton):

**In Preschool**

- delayed speech -often, they don't start talking until they are two, two-and-a-half, three, or even older, early stuttering or cluttering
- mixing up the sounds and syllables in long words
- chronic ear infections
• severe reactions to childhood illnesses
• constant confusion of left versus right
• late establishing a dominant hand
• difficulty learning to tie shoes
• trouble memorizing their address, phone number, or the alphabet
• can’t create words that rhyme
• a close relative with dyslexia

In Elementary School
• dysgraphia (slow, non-automatic handwriting that is difficult to read)
• letter or number reversals continuing past the end of first grade
• extreme difficulty learning cursive
• slow, choppy, inaccurate reading:
  - guesses based on shape or context
  - skips or misreads prepositions (at, to, of)
  - ignores suffixes
  - can’t sound out unknown words
• terrible spelling
• often can’t remember sight words (they, were, does) or homonyms (their, they’re, and there)
• difficulty telling time with a clock with hands
• trouble with math
  - memorizing multiplication tables
  - memorizing a sequence of steps
  - directionality
• when speaking, difficulty finding the correct word - lots of “whatyamacallits” and “thingies”
  - common sayings come out slightly twisted
• extremely messy bedroom, backpack, and desk
• dreads going to school
  - complains of stomach aches or headaches
  - may have nightmares about school

In High School
All of the above symptoms plus:
• limited vocabulary
• extremely poor written expression
  - large discrepancy between verbal skills and written compositions
• unable to master a foreign language
• difficulty reading printed music
• poor grades in many classes
• may drop out of high school

In Adults
Education history similar to above, plus:
• slow reader
• may have to read a page 2 or 3 times to understand it
• terrible speller
• difficulty putting thoughts onto paper
  - dreads writing memos or letters
• still has difficulty with right versus left
• often gets lost, even in a familiar city
• sometimes confuses b and d, especially when tired or sick

Common Misunderstandings

1. Writing letters and words backwards are symptoms of dyslexia. Writing letters and words backwards are common in the early stages of learning to read and write among average and dyslexic children alike. It is a sign that orthographic representations (i.e., letter forms and spellings of words) have not been firmly established, not that a child necessarily has a reading disability (Adams, 1990).

2. Reading disabilities are caused by visual perception problems. The current consensus based on a large body of research (e.g., Lyon et al., 2003; Morris et al., 1998; Rayner et al., 2001; Wagner & Torgesen, 1987) is that dyslexia is best characterized as a problem with language processing at the phoneme level, not a problem with visual processing.

3. If you just give them enough time, children will outgrow dyslexia. Dyslexia is a lifelong condition that affects people into old age. There is no evidence that dyslexia is a problem that can be outgrown. There is, however, strong evidence that children with reading problems show a continuing persistent deficit in their reading rather than just developing later than average children (Francis, Shaywitz, Stuebing, Shaywitz, & Fletcher, 1996). More strong evidence shows that children with dyslexia continue to experience reading problems into adolescence and adulthood (Shaywitz et al., 1999, 2003).

4. More boys than girls have dyslexia. Longitudinal research shows that as many girls as boys are affected by dyslexia (Shaywitz, Shaywitz, Fletcher, & Escobar, 1990). There are many possible reasons for the overidentification of males by schools, including greater behavioral acting out and a smaller ability to compensate among boys. More research is needed to determine why.

5. Dyslexia only affects people who speak English. Dyslexia appears in all cultures and languages in the world with written language, including those that do not use an alphabetic script such as Korean and Hebrew. In English, the primary difficulty is accurate decoding of unknown words. In consistent orthographies such as German or Italian, dyslexia appears more often
as a problem with fluent reading—readers may be accurate, but very slow (Ziegler & Goswami, 2005).

6. People with dyslexia will benefit from colored text overlays or lenses. There is no strong research evidence that intervention using colored overlays or special lenses has any effect on the word reading or comprehension of children with dyslexia (American Optometric Association, 2004; Iovino, Fletcher, Breitmeyer, & Foorman, 1998).

7. A person with dyslexia can never learn to read. This is simply not true. The earlier children who struggle are identified and provided systematic, intense instruction, the less severe their problems are likely to be (National Institute of Child Health and Human Development, 2000; Torgesen, 2002). With adequately intensive instruction, however, even older children with dyslexia can become accurate, albeit slow readers (Torgesen et al., 2001).

What Teachers Can Do

• Adequate assessment of language processing is important in determining why students struggle to learn to read. Dyslexia, or reading disability, is a disorder of the language processing systems in the brain. Specific information about exactly what sorts of weaknesses are present is needed in order to determine the appropriate instruction to meet each student’s needs.
• Begin using screening and progress monitoring procedures early on to measure children’s understanding of sounds in speech, letter sounds in words, and fluent word recognition. Using such assessment in an ongoing way throughout a child’s school career can help teachers know what skills to teach and whether a child is developing these skills.
• Explicit, intense, systematic instruction in the sound structure of language (phonemic awareness) and in how sounds relate to letters (alphabetic principle, phonics) is needed for readers with dyslexia.
• The roles of motivation and fear of failing are important when discussing reading problems. Students do not struggle simply because they are not trying hard enough. They may have a brain difference that requires them to be taught in a more intense fashion than their peers. Without intense intervention, low motivation may develop as students try to avoid a difficult and painful task.
• Help students understand their strengths and weaknesses around reading and language. Understanding a possible reason why they find something difficult that no one else seems to struggle with may help relieve some of the mystery and negative feelings that many people with a disability feel.
ABC's to Helping the Dyslexic Student in the Regular Classroom (from Dyslexia Teacher)

Frequently in the regular classroom dyslexic children suffer. Due to lack of understanding of the students learning process the educator may see the student as slow and unmotivated. These misconceptions may lead to low self esteem of the dyslexic student. Once there is understanding of the dyslexic student and the learning process there are some ways to help the dyslexic student in the regular classroom. Here are five quick tips that help both the educator, and the student.

A - Accentuate the positive:
Accentuating the positive increases the dyslexic student's motivation. Dyslexic students learn differently. If there is a certain assignment that is completed, yet not in the exact way as instructed, be sure to accentuate the positive. This will help you instruct the student's completion of the assignment in a motivating way. By letting the student understand the requirements in a positive way this will give the student corrective instruction without frustration.

B - Be Understanding:
Understanding your students needs is important. Many times the dyslexic student may appear unmotivated or slow. Due to lack of understanding these misconceptions can lead to frustration and low self-esteem. If the educator understands the learning process in a dyslexic person, this can help the student's esteem knowing that their teacher understands their particular circumstance.

C - Communicate with your student:
Communication leads to academic improvement. Schedule frequent meetings with your student. Talk about their improvement, and where they may need improvement. Ask your student what learning techniques may work best for them. Communicating with your student helps their confidence and motivation.

D - Develop a Plan:
Developing a plan can help the student set goals. Sitting down with your student, and developing a plan will help the student achieve their goals. Helping your student achieve their goals this will help the student realize their capabilities and increase motivation for learning. These four tips will help the dyslexic student's experience in the classroom. If the educator understands the dyslexic student and incorporates these tips there is a possibility of improvement with the student.

E - Encourage:
Encourage your student. Having a learning disability can be a frustrating process. We all know a little encouragement can go a long way.

F - Follow up:
Schedule a time with your student so you can evaluate their progress. During this
time allow your student to express concerns about learning and class work. Make sure they conduct a self evaluation. This will enable them to understand and analyze their learning process.

G – Goals:
Set goals for your student, and allow your student to set goals for themselves. Once the goals are set give your student a timeframe. Once the goals are met, meet with your student and discuss their progress. This will allow your student to develop the importance of planning, goal setting, and organization. Set both long term and short term goals.

H – Homework:
Do your homework. Dyslexia is a learning disability be sure as an educator you do your research and understand the learning process of the dyslexic student. Don't limit yourself to the age range that you are teaching, understand that you are helping your student develop into adulthood, this is part of your responsibility along with the parent to nourish and educate a successful individual.

I - Intelligence: Explain to your student the different types of intelligence. Emphasize the strong points of the particular type of your students intelligence. Allow your students to complete projects geared toward their intelligence. This will boost your students self-esteem.

J - Journal: Journaling can help everyone. Tell your students to journal. Ask them to write about their goals, accomplishments, and fears. Teach them that their journal is their safe place to express themselves without fear, judgment, or ridicule. This will improve their writing and creativity. Journaling also gives students a safe place to express themselves.

K - Knowledge: Knowledge never ends. Encourage students to think outside of the box. Tell them that knowledge never has or will have a stop sign. There is always room for growth and knowledge.

L - Love: Teach your students to love themselves, and know that they are loved. At a young age children tend to judge themselves by their grades, encourage their talents and character development as a person. Tell your student that it is important to do their best but at the same time, a letter defines no one, encourage parents to teach this at home.
Specific Programs to Help Students with Dyslexia

1. Barton Reading & Spelling System
   - a one-on-one tutoring system that improves spelling, reading, and writing skills of children, teenagers or adults who struggle due to dyslexia or a learning disability
   
   www.bartonreading.com

2. 3D Learner Program

   The program is an intensive 5-day training program designed to help the student:

   - Improve self-esteem and self-control
   - Develop spelling, vocabulary and handwriting skills
   - Reduce tension level and improve behavior
   - With math, especially with word problems
   - Understand what they Read and Enjoy it
   - Improve focusing ability
   - Learn key concepts including consequences, responsibility, control, sequencing, etc.
   - Master what they learn-too often these students forget what they learn
   - Prepare for FCATs, SATs or other tests
   - Have a clear set of goals and a specific action plan

   www.3dlearner.com/3d-learner-program

3. Davis Reading Program for Young Learners (Ages 5-7)

   The program is an individualized learning enhancement program with a licensed and trained Davis Facilitator. Its mission is to give children aged 5-7 the best possible start at the outset of their learning career. Its aims are:

   - to provide lifelong learning skills to younger children through a partnership between Facilitator, child and parent(s)
   - to give one or both of the child’s parents, or a support person, sufficient confidence and skill to continue working with the Davis Young Learner’s Kit after the program
   - to provide children with the conceptual skills needed to develop reading fluency and comprehension.

   www.dyslexia.com/davisreading.htm
4. Davis Dyslexia Correction Program

The two major components of the Davis Dyslexia Correction program are Orientation Counseling and Symbol Mastery. Davis Dyslexia Correction always includes both of these components.

Davis Orientation Counseling® teaches dyslexic students how to recognize and control the mental state that leads to distorted and confused perceptions of letters, words and numerals. Through a simple mental technique, the students learn to turn off the thought processes that cause misperceptions. Instead, they are able to restore their minds to a relaxed and focused state, suitable for reading and other studies. Once Orientation is learned, the student is ready to build the conceptual skills that will allow them to overcome problems stemming from dyslexia.

Davis Symbol Mastery® gives dyslexic students the ability to think with symbols and words, so they can learn to read easily and with full comprehension. Using clay, students first work with the alphabet, numerals, and punctuation marks, to make sure that they have an accurate perception and understanding of these symbols. Students then use clay to model the trigger words -- the short abstract words, frequently encountered in reading, such as and, the, to, or it. These words cause problems when dyslexic students cannot form a mental picture to go along with them. Through Symbol Mastery, the student makes a three-dimensional clay model of the meaning of each word, together with a model of the letters of the words. With this approach, learning is permanent.

www.dyslexia.com/program.htm

5. Language Tune-Up Kit® Phonics

• An intensive, sequential phonics-based system teaches the basics of word formation before whole meanings. The method accommodates and utilizes the three learning modalities, or pathways, through which people learn -- visual, auditory and kinesthetic.

http://www.rmlearning.com/dyslexia.htm
Where to Get More Information About Dyslexia

<table>
<thead>
<tr>
<th>Organization</th>
<th>Description</th>
<th>Contact Info.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Council for Exceptional Children, Division for Learning Disabilities</td>
<td>An organization dedicated to improving educational outcomes for individuals with exceptionalities and students with disabilities. It works on behalf of students with learning disabilities and the professionals who serve them.</td>
<td>Phone: 1-888-CEC-SPED <a href="http://www.teachingld.org">www.teachingld.org</a></td>
</tr>
<tr>
<td>International Dyslexia Association</td>
<td>An organization dedicated to the study and treatment of dyslexia. It focuses its resources in four major areas: information and referral services, research, advocacy, and direct services to professionals in the field of learning disabilities.</td>
<td>Phone: 1-410-296-0232 <a href="http://www.interdys.org">www.interdys.org</a></td>
</tr>
<tr>
<td>Learning Disabilities Association of America</td>
<td>An organization that works to provide education, encourage research into learning disabilities, create a climate of public awareness, and provide advocacy information and training.</td>
<td>Phone: 1-412-341-1515 <a href="http://www.ldaamerica.org">www.ldaamerica.org</a></td>
</tr>
<tr>
<td>LD OnLine</td>
<td>The website features thousands of articles on learning and reading disabilities, monthly columns by experts, a free question-and-answer service, and a directory of professionals and services.</td>
<td><a href="http://www.ldonline.org">www.ldonline.org</a></td>
</tr>
<tr>
<td>National Center for Learning Disabilities</td>
<td>An organization devoted to working with individuals with LD, their families, educators, and researchers. NCLD provides essential information, promotes research and programs to foster effective learning, and advocates for policies to protect and strengthen educational rights and opportunities.</td>
<td>Phone: 1-888-575-7373 <a href="http://www.ncld.org">www.ncld.org</a></td>
</tr>
</tbody>
</table>

References:

www.dyslexia-teacher.com
Executive Dysfunction (EF)

Introduction:

EF is a term used to refer to regulatory disorders referring to abnormality in executive functioning which happens in the orbital frontal cortex of the brain. Issues related to ADHD, OCD, Tourettes, explosiveness, chronic non-compliance, autism and sensory dysfunction are biologically rooted in the brain.

Features and characteristics:

• difficulty initiating, shifting, inhibiting and sustaining.
• mood instability, concrete rigid black and white thinking
• difficulty with working memory
• may have frequent outbursts, are often frustrated
• need coaching or constant cueing for multi-step activities

Diagnosis:
The term Executive Dysfunction is a broad term which is usually identified through psychological testing and medical testing such as a EEG. A combination of psychological, medical and education professionals can be useful in making this diagnosis.

Recommendations:

Classroom adaptations / modifications:

Similar to the adaptations / modifications for those students who have a diagnosis of ADHD, OCD and or Tourettes Syndrome.

What to expect of the child:

These children may be oppositional and not able to follow rules like other students. They may be constantly challenging authority and may be overly active, may have difficulty focusing and may need one on one instruction and assisting with organization and completing educational projects. They may also require adaptation in the manner in which you test for learned material.

Resources:

Parker, Leslie, http://www.tourettesyndrome.net/ef_tips_time.htm
Fetal Alcohol Spectrum Disorder (FASD)

Introduction:

Alcohol affects the fetus. Alcohol consumed by the mother passes freely through the placenta to her child. Since the fetus is in an insinuated state the fetus's blood alcohol level can be actually be higher then the mother’s alcohol level. The fetus's ability to decrease and eliminate the alcohol level is at much a slower rate than that of the mother's.

Alcohol affects the baby’s brain whether the mother is only taking an occasional drink, is drinking daily or is binge drinking. Drinking any amount of alcohol during a pregnancy can cause damage that is like buck shot—scattered holes. These scattered holes occur in whatever area is developing at the time of alcohol consumption causing the death of brain cells, migration of brain cells to the wrong place or tangles in the neurons with inaccurate connections. Regular drinking in any amounts causes continuous damage.

Facts about FASD’s:
There is no cure for FASD's.
It is one of the leading causes of preventable birth defects and developmental delays
It is found in all economic and racial groups
It is not genetic or inherited
There is no definitive information regarding a safe quantity of alcohol
It is a life long disability

Overlapping Disabilities:
Attention Deficit Disorder (ADHD)
Attachment Disorder
Autism
Oppositional Defiant Disorder
Conduct Disorder

Secondary Disabilities:
95% will have mental health problems
68% will have disrupted school experiences
68% will experience trouble with the law
55% will be confined to prison, treatment centres or institutions
52% will exhibit inappropriate sexual behavior
More than 50% of males and 70% of females will have alcohol/drug problems
82% will not be able to live independently
70% will have problems with employment
Features and characteristics:
Facial anomalies
Short palpebral tissues
Flat upper lip
Flatten philtrum
Growth retardation
Low birth weight for gestational age
Decelerating weight over time not due to nutrition
Disproportional low weight to height
CNS neurodevelopment abnormalities,
  decreased cranial size at birth
  structural brain abnormalities
  neurological hard or soft signs (fine motor)

Developmental delays
  Deficits in school performance
  Deficits in higher level receptive and expressive language
  Poor capacity for abstraction or metacognition
  Specific deficits in mathematical skills or problems in memory

Behaviour Uniqueness
  Poor impulse control
  Attention judgement
  Problems in social perception

Treatment:
Classroom adaptations/modifications:
  • Keep classroom movement to a minimum since FAS students become easily overwhelmed with the physical movement of more than 15 other people in a room.

Program adaptations/modifications:
  Reading Strategies:
  • Debug the book i.e. give a brief summary and point out unfamiliar words
  • Audio tape the book
  • Have the student follow along with their finger as the book is being read
  • Select topics of high interest of the student
  • Use window overlays to focus student’s attention
  • Use page summaries to assist with long term memory retention
  • Have the student draw pictures about the paragraphs read
  • Paraphrase instructions using simple language
  • Break down instructions into smaller steps
• Have the students repeat the instructions back to you
• Highlight main points and reprint these main points
• Use three dimensional shapes for letters
• Teach directional skills
• Allow students to sit or lay on the floor while reading
• Provide students with a place or area of low/minimum stimulation i.e. study corrals
• Have student use earphones to listen to directions/stories
• Give books younger than chronological age when needed
• Give extra one-on-one help
• Use picture association when introducing letters
• Show patterns in words and teach new words with similar word patterning
• Use repetition when introducing new concepts and giving instructions
• Allow the student more time to complete tasks and to master basic concepts
• Use activities that raise words off of the paper i.e. trace the letter with glue and add sprinkles on top of the glue
• Use multi sensory textures i.e. use materials with different textures
• Repeat the line, up to the problem word while making the initial sound
• Use social stories to teach specific concepts listed on the student’s IEP’s
• Use “hooks” to aid student with comprehension and memory i.e. Refer to quotation marks as talking signs
• Use sentence strips with associated pictures and cut the sentence strips into chunks i.e. I/ have a pet/ dog called Rex/
• Draw pictures and have the student place the word on top of the correct picture.
• Use sound boxes to aid in spelling words i.e. played playing
• Use analogies to aid in spelling words i.e. start with a word the child knows then take them to the unknown (look/book)
• Allow invented spelling i.e. the student inserts the word the way he/she thinks it is spelled
• Allow for sub vocalizing or reading quietly so they can hear the words during silent reading periods
• Encourage metacognitive strategies such as paraphrasing, retelling, summarizing, brief note taking and self-questioning while reading
• Allow students to take part in listening to stories and listening to other students reading. Encourage oral story telling
• Encourage reading volunteers to spend extra individual time with FAD students
• Group words by rhyming sound families. i.e. rock/stock/clock or right/might/flight
• Use color coded systems for easier recall
• Use sticky pads to write down words/main points to remember while reading
• Use story mapping/clustering/story webbing
- Make reading assignments as concrete as possible
- Underline or circle important points of text.
- Put events into chronological timeline.
- Provide the initial part of sentence and ask the students to fill in the remainder.
- Using vibrating pens to provide increased sensory and tactile feedback.
- Precede a focused reading activity with a gross motor activity.
- Allow a student to experiment with different positions while reading. i.e. lying on the carpet or rocking in a rocking chair.

Math Strategies:
- Separate the four types of operational questions into separate sections i.e all addition questions in one section, all subtractions questions in another section
- Use pictures to represent fractions i.e. relate a fraction to the visual representation of a part of a whole pie.
- Break down the steps of each math process
- Put the math process steps into rap songs or mnemonics
- Have the students repeat the instructions back to you
- Arrange for repetition and practice of basic math process at a basic level.
- Use concrete manipulative whenever possible i.e. cubes, counters, calculators, cheerios
- Use coins when teaching money management skills
- Use game format whenever possible
- Use computer programs such as Math Blaster
- Allow for more time to learn each math process
- Do not assume student can generalize information across each math process
- Use math tricks i.e. nine times tables.
- Use written charts of math times tables
- Allow students to use calculators to recheck work.
- Incorporate activities which promote experimental movement and using the math process in a practical application i.e. cutting a log into parts or cutting a desert into different parts
- Allow adaptations in test writing i.e. give them more time, allow them to go to a quiet space or to use support tools
- Reduce the number of problems given on assignments
- Focus on the success not the failure i.e. look at what the student is able to do
- When testing for math operations, test for comprehension of the process
- Provide multiplication tables for each student

**Augmentative Equipment:**
- Computers
- Computer programs i.e. Board Maker
• Calculators
• Alpha Smart (mini word processor)
• Audio cassette recorder/player
• Video record/player
• Earphones

What to expect of the child:

1. Planning
   needs considerable help organizing daily tasks
   cannot organize time, does not understand concept of time
   difficulty in carrying out multi-step tasks

2. Behavioural Regulation/Sensory Motor Integration
   poor management of anger
   mood swings
   impulsive
   inattentive
   inappropriate activity level
   lying/stealing
   over or under reactivity to stimuli

3. Abstract Thinking/Judgment
   poor judgement
   concrete; unable to think abstractly

4. Memory/Learning/Information Processing
   poor memory; inconsistent retrieval of learned information
   slow to learn new skills
   does not seem to learn from past experiences
   problems recognizing consequences of actions
   problems with information processing speed and accuracy

5. Spatial Memory
   gets lost easily, has difficulty navigating from point a to point b

6. Social Skills and Adaptive Behaviour
   behaves at a level notably younger than chronological age
   poor social/adaptive skills

7. Motor/Oral Motor Control
   poor/delayed motor skills
Positive Characteristics

- Creative intelligence (artistic, musical)
- Perseverance (determined, willing, energetic, committed hard workers)
- Highly moral (deep sense of fairness, rigid belief systems)
- Strong sense of self
- Friendly and trusting
- Loyal, loving, affectionate, gentle
- Tactile, cuddly
- Concerned, sensitive

Myths and Truths

MYTH #1
Having one or two drinks during pregnancy is OK. It's just heavy drinking that can be a problem.

TRUTH #1
No one knows how much is too much. Drinking even a small amount during certain critical gestational periods can cause some of the permanent, irreversible symptoms we have discussed. The probability of having a baby with problems caused by alcohol or other drug use increases with how much and how often you consume. There is no safe dose and no safe time to drink or use drugs during pregnancy. Therefore, the best attitude to take is that no amount is safe.
D. Malbin, 1990

MYTH #2
If you use chemicals during the earlier part of your pregnancy, there’s no point quitting later on.

TRUTH #2
If you stop using during your pregnancy, you improve your chances of having a healthier baby.

MYTH #3
It’s okay to drink beer or wine coolers during pregnancy because these substances aren’t strong enough to cause a problem.

TRUTH #3
Beer and wine coolers are just as dangerous as other types of alcohol or other drugs and pose similar threats.

MYTH #4
If you’ve already had one or more children who appear normal and you drank or used other drugs during pregnancy, your continued use won’t result in problems for the baby you’re now carrying.

TRUTH #4
Older children who appear to be healthy may have subtle effects that aren’t apparent. Subsequent children born to a mother who drinks or uses drugs are
often more seriously impaired, not only because her use tends to increase over time, but also because her health tends to deteriorate.

MYTH #5
Children born with problems related to fetal drug exposure are most often born to poor women, First Nation women, and women who live in the inner city.
TRUTH #5
Kids with FAS come from all socio-economic levels and ethnic backgrounds and may live in any type of community.

MYTH #6
The problems a drug exposed baby is born with will go away in time. The infant will catch up.
TRUTH #6
Some of the physical effects and behaviors may clear up over time, but babies exposed primarily to alcohol seem to have more permanent effects. Any behavioral problems may actually get worse if the effects of fetal alcohol exposure are not addressed as the child grows older.

MYTH #7
Only chemically dependent mothers have babies affected by FAS, or other problems associated with drug exposure.
TRUTH #7
Women who are not identified as being chemically dependent but who drink occasionally to moderately run the risk of affecting their babies.

MYTH #8
Women who drink or use drugs during pregnancy are “unfit” mothers whose children should be taken away.
TRUTH #8
Women who drink during pregnancy are not unfit, they need help. Women who are chemically dependent need support and guidance to enter treatment programs and recover. Women who are not identified as being chemically dependent but use drugs during their pregnancy need education and support to abstain from drug use during their pregnancy. Women who continue their alcohol use may have actually lost the ability to choose. Denial, isolation, and rationalization may further confuse their ability to make healthy decisions. These women may be chemically dependent and require help in the form of a treatment program to stop using alcohol or other drugs.

Source: FAS Stories of Hope and Help, Dianne Malbin, 1992

Resources:
American Psychiatric Association, DSM IV Diagnostic and Statistical Manual of
Mental Disorders. 1994, Donnelly and Sons, Washington D.C.
Ashley Susan, PHD and Clarren Sterling, M.D. Diagnostic Guide for FAS and Related Conditions, University of Washington, Seattle, 1999
Gillingham, Gail, Autism A New Understanding, 2000, Tacit Publishing Inc., Edmonton
Grandin, Temple, Thinking In Pictures, 1995, Random House
Pinnell Gay Su, and Irene Fountas, Word Matters, Guided Reading, 1998, Heineman, Portsmouth
Packer, Leslie E. PhD., Pruitt S, Greene, Ross W. Dr., Notes from Neuro- Behavioural Workshop, Winnipeg, 2002
Sheda, Constance, O.T. Developmental Motor Activities for Therapy, 1990, Therapy Skills Builders, Tucson Arizona
Sinclair, Gloria, Reading and Writing Strategies, Manitoba First Nations Education Resource Centre, 2000
Giftedness

Introduction:

Children and youth who give evidence of high performance capability in areas such as intellectual, creativity, or in specific academic fields and who require services or activities not ordinarily provided by the school in order to fully develop such capabilities are termed gifted. There are numerous lists of characteristics or features and attributes of gifted children. However, few gifted children will display all of the characteristics/features/attributes on any of these lists.

Understanding the characteristics/features/attributes of gifted children will help both parents and teachers to sharpen their observations of these children in two distinct ways:

(a) while characteristics/features/attributes do not necessarily define who is a gifted child, they do constitute observable behaviors that can be thought of as clues to more specific behaviors, and
(b) these characteristics/features/attributes are signals which indicate that a particular child might warrant closer observation and could require specialized educational attention, pending a more comprehensive assessment.

The characteristics/features/attributes on these lists can be grouped into 12 categories:
1. Motivation
2. Interests
3. Communication Skills
4. Problem Solving Ability
5. Memory
6. Inquiry/Curiosity
7. Insight
8. Imagination/Creativity
9. Humour
10. Intensity (Over-excitabilities)
11. Reasoning
12. Sensitivity
Remember that a student does not have to show all twelve traits to be considered gifted.

**Characteristics/Features/Attributes:**
- Show keen powers of observation,
- Exhibit a sense of significant
- Have an eye for important details.
- Read a great deal on their own (prefer books/magazines written for youngsters older than themselves
- Take great pleasure in intellectual activity.
- Have well developed powers of abstraction, conceptualization, & synthesizing abilities
- Have rapid insight into cause-effect relationships.
- Tend to like structure, organization, and consistency in their environments.
- May resent the violation of structure and rules.
- Display a questioning attitude (seek information for the sake of having it as much as for its instrumental value)
- Are often skeptical, critical, and evaluative
- Are quick to spot inconsistencies
- Have a large storehouse of information regarding a variety of topics which they can recall quickly
- Show a ready grasp of underlying principles and can often make valid generalizations about events, people or objects.
- Readily perceive similarities, differences and anomalies.
- Attack complicated materials by separating it into its components and analyzing it systematically.
- Have a well-developed common sense.

**Behaviour Uniqueness**
- Are willing to examine the unusual and are highly inquisitive.
- Are well organized, goal directed and efficient with respect to task and problems.
- Exhibit an intrinsic motivation to learn, find out or explore
- and are often very persistent.
- “I’d rather do it myself” is a common attitude
- Enjoy learning new things and new ways of doing things
- Have a longer attention and concentration span than their peers
- Are more independent and less subject to peer pressure than their age mates
- Can be conforming or non-conforming as the situation demands
- Have a highly developed moral and ethical sense
- Are able to integrate opposing impulses, such as constructive and destructive behavior
- Exhibit daydreaming behavior
- May seek to conceal their abilities so as not to “stick out.”
• Have a well developed sense of self and a realistic idea about their capabilities and potential

What to Expect of the child:
There are six types of giftedness. Each type has its own set of traits of which teachers must be aware.

Types of Giftedness
1. Successful—as many as 90% of identified gifted students in school programs are Type I's. These students have mastered the system. (They have listened closely to their parents and teachers and have discovered what "sells" at home and at school and they display those appropriate behaviours.) They learn able to score high on achievement tests and tests of intelligence. They are usually identified for placement in programs for the gifted and rarely exhibit behaviour problems. They are eager for approval from teachers, parents and other adults.

2. Challenging—typically possess a high degree of creativity and may appear to be obstinate, tactless, or sarcastic. (They do not conform to the system and may or may not feel included.) These students often question authority and may challenge the teacher in front of the class. They receive little recognition and few rewards or honors. Their interactions at school and at home often involve conflict. They feel frustrated because the school system has not affirmed their talents and abilities. They often possess negative self-concepts and may be "at risk" as eventual dropouts if appropriate interventions are not made by junior high.

3. Underground—generally, these are females whose belonging needs rise dramatically in middle school. (If a gifted boy goes underground, it tends to happen later, in high school, and typically in response to the pressure to participate in athletics.) These students frequently feel insecure and anxious. In the past they were highly motivated and intensely interested in academic or creative pursuits but have undergone an apparently sudden radical transformation, losing all interest in previous passions. Their changing needs are often in conflict with the expectations of teachers and parents. Adults react to them in ways that only increase their resistance and denial.

4. Dropouts—are angry with adults and with themselves because the system has not met their needs for many years. These students feel rejected and neglected. They are bitter and resentful. They may express their anger by acting depressed and withdrawn or by acting out and responding defensively. They frequently have interests that lie outside the realm of the regular school curriculum. School seems irrelevant and perhaps hostile to them. They are usually high school students, but occasionally may be an elementary student who attends school sporadically or only on certain days. These were identified as gifted very late, perhaps not until high school. Their self-esteem is very low. Traditional programming is no longer appropriate for them.
5. **Doubled Labelled**—are physically or emotionally handicapped in some way, or have some type of learning disability. These students do not exhibit behaviors that schools look for in the gifted (ie. have sloppy handwriting or disruptive behaviors). They show symptoms of stress (they may feel discouraged, frustrated, rejected, helpless, or isolated). They may deny that they are having difficulty by claiming that activities or assignments are "boring" or "stupid". They may use their humor to demean others in order to bolster their own lagging self-esteem. They urgently want to avoid failures and are unhappy about not living up to their own expectations. Traditionally, these students are either ignored because they are perceived as average or referred for remedial assistance. School systems tend to focus on their weaknesses and fail to nurture their strengths or talents.

6. **Autonomous**—like the Type 1’s, these students have learned to work effectively in the school system. Unlike the Type 1’s these students strive to do as little as possible. Type 6’s have learned to use the system to create new opportunities for themselves (they do not work for the system; they make the system work for them). They have strong, positive self-concepts. They are successful, and they receive positive attention and support for their accomplishments as well as for who they are. They are well respected by adults and peers and frequently serve in some leadership capacity within their school or community. They are independent and self-directed. They are able to take risk and possess a strong sense of personal power. They are able to express their feelings, goals, and needs freely and appropriately.

**Referrals for Gifted Students are based on:**
- teacher judgment
- parent nominations
- peer nominations
- grades
- group test scores
- or any combination of these

**When identifying Giftedness in First Nations, educators must also:**
- assess verbal and nonverbal responses
- provide adequate time for students to answer
- develop questioning procedures to elicit multiple responses on items giving credit for such responses
- assess a wide range of abilities
- use a matrix rather than one factor for making decisions

**Programming for Giftedness:**

*Classroom adaptations / modifications*
Modifying Curriculum
• Content—what is being taught and learned
• Process—how it is being taught and learned
• Product—proof of learning

Modifying the content
• refers to the subject matter of a course (The stuff the students are supposed to learn.)
• includes facts, concepts, and generalizations along with basic skills
• uses anomalies and paradoxes to peak interest
• uses more variables to a task to increase complexity of a topic and interrelations to other fields

Modifying the Process
• refers to what students actually do with the content of a lesson
• and how they proceed toward the product of the lesson
• lessons move into more challenging realms
• open-ended questions
• less yes/no questions
• avoidance of playing “Guess what the teacher is thinking”
• adopt new practices / techniques

Modifying the Product
• is the easiest dimension to adapt
• is gradual (groups with assigned different products to individuals with self chosen products)
• develops a list of alternate products according to the 8 intelligences
• can use the alternate products list as a menu, organized or record keeper
• broadens students’ repertoire of ways of learning and experiencing
• broadens the range of students’ experience
• allows some students a chance to use gifts they otherwise might not

Program adaptations / modifications

The Progressive Approach Model
- Traditional Classroom
- Level 1: Enrichment*
- Level 2: Small- Scale Differentiation*
- Level 3: Large-Scale Differentiation**
- Level 4: Radical Alternatives**

*Stage 1 consists of Levels 1 & 2—the Enhancing Regular Instruction
**Stage 2 consists of Levels 3 & 4—the Individualizing Programs
Placement
Above Segment Placement by Subject
gifted students take coursework at a higher level when their level of interest and ability cannot be served at their school of enrollment

Advanced Placement (AP)
students are allowed to challenge university level courses based on successful completion of advanced placement courses

Alternative Schools
specific designated schools receive students from other schools within predetermined geographic boundaries

Alternative Programs
are self contained full day programs providing an intensive curriculum to students identified as gifted

Cluster Core Classes
students are served in ability groups in advanced levels of the core subjects

Extended Day Programs
an enrichment program is offered before or after school

Pull Out/Enrichment Programs
services are delivered during the school day. Through cooperative agreement with the classroom teacher and parents, arrangements are made for the gifted student to receive additional supplemental and/or enrichment activities on a regularly scheduled basis. This instruction may be provided outside the classroom or in small groups within the classroom.

Multi-age Classes
provide full day instruction in a self-contained classroom serving grades two or more grades as needed; teaching gifted students the strategies necessary to differentiate the core curriculum. These programs serve only students are identified as gifted and spend a part of their school day with their grade level peers

Regular Classes
use differentiated instruction based on an IEP

Augmentative Equipment
Computers
Computer programs i.e. Board Maker
Calculators
Audio cassette recorder/player
Problems Associated with Giftedness

Gifted students must face these problems:

• choices between the competing goals of popularity and academic achievement (social relations often take precedence over intellectual interests)
• society's gender-role expectations
• choices of denial, concealment, or abandonment of their talents (because they see disadvantages in being gifted)

Gifted students become bored easily when they are given more of the same work they have already completed.

Myths About Giftedness

Myth #1
Gifted education and the "gifted" label are "elitist" because schools with gifted programs offer 'special' treatment for smart kids that already have it all.
Truth #1
Gifted education is, in fact, about meeting the academic and affective needs of students whose abilities and knowledge exceed what is being taught in the regular classroom.

Myth #2
Gifted kids have 'pushy" parents.
Truth #2
Parents of gifted children are often less inclined to make an issue of their children for fear of drawing attention and harming their child's school experience. Often, parents of gifted children may be reliving their own negative experience in school and simply want their child to be intellectually challenged each day in school.

Myth #3
Gifted kids tend to be physically weak and unhealthy.
Truth #3
Gifted children actually tend to be stronger, have fewer illnesses, and many are outstanding athletes.

Myth #4
Gifted kids are emotionally unstable and social misfits.
Truth #4
The opposite is generally true. Many children fail to be identified by teachers because their outward behavior seems so normal. They are often very outgoing and can be outstanding leaders.
Myth #5
Gifted kids are enthusiastic about school and academic work.
Truth #5
Gifted children will, in fact, opt for "alternative' ways to demonstrate their intelligence and creativity, if not encouraged to do so in a school environment. Gifted students will often choose the easiest path to an "A!' since the "A!' comes so easy to them.

Myth #6
Gifted kids are smart enough to learn by themselves.
Truth #6
Gifted children require the same professional educational and emotional support as other children, but that support must be appropriate to their needs.

Myth #7
Gifted kids are usually from upper middle class professional families.
Truth #7
Gifted children are found in all socioeconomic groups in proportionate numbers.

Myth #8
Gifted kids with the same level of intelligence have the same abilities and interests.
Truth #8
Gifted children, like all children, are unique individuals and differ in their abilities, talents, and personalities.

Myth #9
All children are gifted.
Truth #9
All individuals have gifts that make them unique, but giftedness refers to extraordinary, exceptional, beyond-the-norm abilities and talents.

References:

Harvey, David, A Model for Gifted Programming in Regular Classrooms, 1999.
Manitoba Association for Gifted Education, Coaching Student Growth, #1 October 2002
NW Regional Educational Laboratory, Evolving Definitions of Giftedness, 2003, ERIC www.nwrel.org
Grief, Mourning and Suicide Issues in Schools

Introduction

Mourning is:
- The process of taking what is inside and moving it to the outside.
- Healthy mourning is about integrating the loss from the inside out not the outside in.
- There is no “right” way to do this.
- Mourning can be a transforming process
- Can be a process of reconciliation
- Is on-going, gets less and less but never really truly completely ends

Bereavement is:
- “To be robbed”.
- Humans need to “protest”, or get angry about this.
- The Grief Facilitator:
  - Be a companion - this means “an equal”
  - Create a hospitality free and open space to create mourning
  - “Treat” means “to drag”
  - “Patient” means “a passive long term sufferer”

What is the difference between grief and mourning?
- Grief is internal to the individual
- Mourning is taking the internal grief to the outside ie.sharing and talking
- Expressing emotion
  - Drawing painting
  - Writing letters
  - Journaling
  - Crying
  - Asking questions

Six Needs When Mourning:
1. Acknowledge the death/loss
2. Embrace the pain
3. Remembering the presence of life / the meaning of life
4. New self identity
5. Search for meaning
6. On-going support

Mourning is a process done over time in doses:
• Grief is a process not an event
• We can be transformed by grief, can be affected by it and can be changed by it
• We should attempt to process it. Live it and experience it
• Mourn well live well and love well
• Children Grieve in smaller doses ie. cry hard for 2 minutes and then play
• Let the child teach us about his her understanding of death
• Children may not be able to verbalize the scary feelings they have about death
• Each child’s reaction is based on cognition, emotion, spiritual and physical response to the loss of a loved one
• Every humans reaction to loss is unique and different

Grief Tips:
• Offer physical support
• Provide structure and routine
• Allow to express emotion on and on-going basis
• Write letters to family members
• Write letters to create memorial – be careful not to glamorize suicide
• Offer on-going presence and support
• Give permission to concentrate on their mourning
• Offer constructive venting alternatives
• Offer support groups
• Send information to parents
• Try to understand acting out behavior
• Provide support and opportunities to revisit the uses sharing circles
• Encourage child to ask questions
• Encourage child to explore new identity
• Encourage to search for the meaning of loss

What to do for young students:
• Facilitate means to make easier
• Create safe places for people to experience and process their grief
• Let people ask “Why?”
• Children grieve through their behaviour
• Do we punish them or crate safe places to process their feelings

Things that inhibit mourning:
• Lack of initial support
• Lack of on-going support
• Lack of opportunity to express grief
• Expectation that the person should be “over “ their grief
• Trying to fix or pathologize
• Punishing expression of anger, sadness, withdrawal or depression
• Lack of opportunity for public expression of grief
• Lack of safe nurturing environments

Myths & Truths About Suicide
Myth #1. A person commits suicide without warning.
Truth: Although suicide is an impulsive act, it is often thought out and communicated to others.

Myth #2. People who talk about suicide never kill themselves
Truth: 8 out of 10 have given definite clues and warnings about suicidal intentions.

Myth #3. Suicide is a random happening; there are few cases.
Truth: Suicide is the 10th leading cause of death among adults (US stats.) First Nations people have the highest rate of suicide in the world.

Myth #4. Suicide strikes much more often among the rich or, conversely, it occurs almost exclusively among the poor.
Truth: Suicide shows little prejudice to economic status. It is represented passionately among all levels of society.

Myth #5. More women than men commit suicide.
Truth: Although women attempt suicide three times more often as men, men commit suicide three times as often as women.

Myth #6. Suicidal people really want to die so there’s no way to stop them.
Truth: Suicidal people are often undecided about living or dying right up to the last minute; many gamble that others will stop them before it is too late.

Myth #7. Suicidal people can never be saved; they will do it eventually.
Truth: People who want to kill themselves feel that way only for a limited time (crisis period).

Myth #8. If people want to kill themselves, no one has the right to stop them.
Truth: No suicide case has only one victim; wives, husbands, children, friends all suffer from the loss of a suicide.

Myth #9. Suicide is inherited, it runs in the family.
Truth: There is not genetic predisposition to self-destruction; suicide is a highly individual matter

Myth #10. Most suicides are caused by a single dramatic and traumatic event.
Truth: Precipitating factors may trigger a suicidal decision; more typically the deeply troubled person has suffered long periods of unhappiness, is withdrawn, depressed, helpless to cope with life, has little self respect, and no hope for the future.
Myth #11. Once stopped, the suicidal person is “cured.”
Truth: Depressed individuals need attention and emotional support; encouraging them to talk about their suicidal feelings can be therapeutic as a first step.

Myth #12. More than 50% of people who commit suicide are people who have not sought medical help within 6 months of their death.
Truth: Suicidal individuals often exhibit physical symptoms as part of their clinical depression and might seek medical treatment for their physical ailments.
(© 1996 Holistic Learning Systems)

Internal and external factors that influence the grieving process:

Internal
- Loss and death history
- Attachment history
- Age and development level
- Nature of your relationship with the deceased
- Support network

External
- Place of death
- Successive deaths or losses
- Nature of the death

The Cycle of Grief
- Denial and Isolation
- Anger
- Bargaining
- Depression
- Acceptance

Resolution of grief is a constantly fluctuating process. (Death & Dying, Kubler-Ross)

First Stage: Denial & Isolation
This is often the initial reaction: “No, it can’t be happening to me.” This is often a healthy way to get some distance and perspective on the reality of the situation until the time the person is ready to deal with it.

Isolation: People in this stage often feel alone and think that there is no one they can talk to about it.

Second Stage: Anger
Once the person begins to accept the loss, the person usually feels anger, rage, envy and resentment. “Why me? Why not someone else?” This stage is apt to
alienate other people, but it is very important for the person experiencing it. The person is rightfully angry about being cheated of many things that have been planned for, worked for, and believed in, and is jealous of others who are not facing such a difficult situation.

Third Stage: Bargaining
Bargains are often based on guilt, desperation, hopelessness and remorse. The person may try to make bargains with her/himself, feeling that if she/he changes everything she/he feels guilty for, maybe things will work out again.

Fourth Stage: Depression
Sometimes depression may be based on guilt and shame which are unrealistically exaggerated. In this kind of depression, it may be helpful to remind oneself of the real facts and the positive things. It is important to allow this grief to be fully experienced. (thinking, talking and crying)

Fifth Stage: Acceptance
Eventually the person experiencing loss has worked through all these feelings and is resigned to the situation. The past no longer has the power to evoke uncontrollable or heavy feelings. We accept the loss and move into living.

SUICIDE SURVIVORS GRIEF
- denial, shock, guilt, anger and depression can be intensified if the death is through suicide
- suicide survivors can also have feelings of shame, failure and rejection
- there tends to be more social stigma about death through suicide
- the reality of suicide can be more painful than other forms of grief
- with suicide there is no opportunity to say goodbye as with death through terminal illness
- there is increased need for closure of unresolved issues after a suicide
- people may find it more difficult to talk about suicide than other deaths
- there are usually many unanswered questions after a suicide (only 10-15% of all suicides leave a note)
- survivors may be burdened with deep and complex feelings of guilt
- survivors are often left worrying about things they could have done differently in relation to their loved one, friend or colleague. (i.e., Why didn’t I recognize and/or respond to any warning signs? - This may take a long time to resolve)
- the mourning process is generally extended when the death is by suicide

(Adapted from: http://www.pilot.infi.net/~susanf/surofsui.htm The American Association of Suicidology)

Helping Children Cope With Grief by Alan D. Wolfelt, Ph.D.

When Someone Loved Dies
Adults grieve. So do children. As an adult or child, experiencing grief means to "feel," not just to "understand." Anyone old enough to love is old enough to grieve. Even before children are able to talk, they grieve when someone loved dies. And these feelings about the death become a part of their lives forever.

Caring adults, whether parents, relatives or friends, can help children during this time. If adults are open, honest and loving, experiencing the loss of someone loved can be a chance for children to learn about both the joy and the pain that comes from caring deeply for other people.

Talking About Death to Children
Adults sometimes have trouble facing death themselves. So open, honest discussions about death with children can be difficult. Yet adults who are able to confront, explore and learn from their own personal fears about death can help children when someone loved dies. As a result, children can form "a healthy attitude toward both life and death.

When a death occurs, children need to be surrounded by feelings of warmth, acceptance and understanding. Caring adults can provide this support.

A Caring Adult's Role
How adults respond when someone loved dies has a major effect on the way children react to the death. Sometimes, adults don't want to talk about the death, assuming that by doing so children will be spared some of the pain and sadness.

However, the reality is very simple: children will grieve, anyway. Adults who are willing to talk openly about the death help children understand that grief is a natural feeling when someone loved had died. Children need adults to confirm that it's all right to be sad and to cry, and that the hurt they feel now won't last forever.

When ignored, children may suffer more from feeling isolated than from the actual death itself. Worse yet, they feel all alone in their grief.

Encourage Questions About Death
When someone loved had died, adults need to be open, honest and loving. Patiently, they need to answer questions about the death in language children can understand.

Adults shouldn't worry about having all the answers. The answers aren't as important as the fact that they're responding to the questions in a way that shows they care. Children may repeat the same questions about the death again and again. It's natural. Repeating questions and getting answers helps them understand and adjust to the loss of someone loved.
Establish a Helping Relationship
Respond to children with sensitivity and warmth. Be aware of voice tone; maintain eye contact when talking about the death. What is communicated without words can be just as meaningful to children as what is actually said.

Let children know that their feelings will be accepted. Although some of their behavior may seem inappropriate, adults need to understand children during this stressful time, not judge their behavior or criticize.

Children need to know that adults want to understand their point of view. This commitment tells a child, "You're worthwhile; your feelings will be respected."

Sharing Religious Beliefs with a Child
Adults often wonder if they should share with children their religious beliefs regarding death. This is a complex issue; no simple guidelines are available. Keep in mind that adults can only share with children those concepts they truly believe. Any religious explanations about death must also be described in concrete terms; children have difficulty understanding abstractions. The theological correctness of the information is less important at this time than the fact that the adult is communicating in a loving way.

Allow Children to Participate
Create an atmosphere that tells children that their thoughts, fears and wishes will be recognized when someone loved dies. This recognition includes the right to be part of planning the arrangements for the funeral. Although children may not completely understand the ceremony surrounding the death, being involved in the planning of the funeral helps establish a sense of comfort and the understanding that life goes on even though someone loved has died.

Since the funeral of someone loved is a significant event, children should have the same opportunity to attend as any other member of the family. That's "allowed" to attend, but not "forced." Explain the purpose of the funeral: as a time to honor the person who has died; as a time to help, comfort and support each other and as a time to affirm that life goes on.

Viewing the body of someone loved who has died can also be a positive experience. It provides an opportunity to say "goodbye" and helps children accept the reality of the death. As with attending the funeral, however, seeing the body should not be forced.

Growing Through Grief
Grief is complex. It will vary from child to child. Caring adults need to communicate to children that this feeling is not one to be ashamed of or something to hide. Instead, grief is a natural expression of love for the person who died.
As a caring adult, the challenge is clear: children do not choose between grieving and not grieving; adults, on the other hand, do have a choice—to help or not to help children cope with grief.

With love and understanding, adults can guide children through this vulnerable time and help make the experience a valuable part of a child's personal growth and development.

*Suggested Guidelines Concerning Children and Grief*

Be a good observer. See how each child is behaving. Don't rush in with explanations. Usually, it's more helpful to ask exploring questions than to give quick answers.

When someone loved dies, don't expect children's reactions to be obvious and immediate. Be patient and be available.

Children are part of the family, too. And reassurance comes from the presence of loving people. Children feel secure in the care of gentle arms and tenderness. When describing the death of someone loved to a child, use simple and direct language.

Be honest. Express your own feelings regarding the death. By doing so, children have a model for expressing their own feelings. It's all right to cry, too. Allow children to express a full range of feelings. Anger, guilt, despair and protest are natural reactions to the death of someone loved. Listen to children, don't just talk to them.

No one procedure or formula will fit all children, either at the time of death or during the months that follow. Be patient, flexible and adjust to individual needs. Adults must recognize their own personal feelings about death. Until they consciously explore their own concerns, doubts, and fears about death, it will be difficult to support children when someone loved dies.

Many thanks to Dr. Alan Wolfelt in allowing us to use this information. If you require further information please contact the Community Education Wellness Specialist at the MFNERC or contact the following website: [http://www.centerforloss.com/pg/default.asp](http://www.centerforloss.com/pg/default.asp)
Hearing Loss

Introduction:

Hearing is one of the five senses. It is a complex process of picking up sound and attaching meaning to it. The human ear is fully developed at birth and responds to sounds that are very faint as well as sounds that are very loud. Even in utero, infants respond to sound. The ability to hear is critical to the attachment of meaning to the world around us.

Five Sections of the Hearing Mechanism
1. Outer ear
2. Middle ear
3. Inner ear
4. Acoustic nerve
5. Brain’s auditory processing centers.
The outer ear consists of the pinna, or auricle and the ear canal (external auditory meatus). The pinna - the "ear" that we see on each side of our heads - is made of cartilage and soft tissue so that it maintains a particular shape but is also pliable. The pinna serves as a collector of sound vibrations around us and funnels the vibrations into the ear canal. It assists us in determining the direction and source of sound.

The ear canal is about an inch long and ¼ inch in diameter. It extends from the pinna to the eardrum (tympanic membrane). The outer foundation of the ear canal is cartilage covered with skin that contains hairs and glands that secrete wax (cerumen). The hairs and wax help to prevent foreign bodies, such as insects or dust, from entering the ear canal. Near the eardrum (tympanic membrane), the wall of the ear canal becomes bony and covered tightly by skin.

The middle ear begins with the eardrum at the end of the ear canal. The middle ear contains three tiny bones called the ossicles. These three bones called the hammer, anvil and stirrup form a connection from the eardrum to the inner ear. As sound waves hit the eardrum, it moves back and forth causing the ossicles to move. Thus the sound wave is changed to a mechanical vibration.

The middle ear is located in the mastoid section of the temporal bone (a skull bone on each side of the head) and is filled with air. A tube called the eustachian tube runs from the front wall of the middle ear down to the back of the nose and throat (the nasopharynx). This tube provides ventilation and access to outside air and equalizes air pressure on both sides of the eardrum -- the middle ear side and the outer ear side. We are aware of the eustachian tube at work when we feel air pressure changing in our ears as we yawn, chew, or swallow.

Because of the facial and skull structure of children, the eustachian tube is in a rather flat position between the middle ear and the nasopharynx rather than in the downward slanting position from the middle ear to the nasopharynx in adults. The flat positioning of the tube in children creates risk for infection traveling from the nasopharynx into the middle ear.

The inner ear contains the sensory organs for hearing and balance. The cochlea is the hearing part of the inner ear. The semicircular canals, the utricle and the saccule are the balance part of the inner ear.

The cochlea is a bony structure shaped like a snail and filled with fluid (endolymph and perilymph). The Organ of Corti is the sensory receptor inside the cochlea which holds the hair cells, the nerve receptors for hearing. Individual hair cells respond to specific sound frequencies (pitches) so that, depending on the pitch (frequency) of the sound, only certain hair cells are stimulated.
Signals from these hair cells are translated into nerve impulses. The nerve impulses are transmitted to the brain by the cochlear portion of the acoustic nerve.

The **acoustic nerve** carries impulses (messages) from the cochlea, and on to other brain pathways that end in the auditory cortex of the brain. At the cochlear nucleus, nerve fibers from each ear divide into two pathways.

The **central auditory system** deals with the processing (understanding) of auditory information as it is carried up to the brain. Central auditory processes are the auditory processes responsible for the following behaviors:

- Sound localization and lateralization
- Auditory discrimination (hearing the differences between different sounds)
- Recognizing patterns of sounds
- Time aspects of hearing (temporal aspects of audition): temporal resolution, temporal masking, temporal integration, temporal ordering
- Reduction in auditory performance in the presence of competing acoustic signals
- Reduction in auditory performance in the presence of degraded (less than complete) acoustic signals

**Balance-a second essential function of the ear**

Balance, or one’s sense of equilibrium, is controlled through the **vestibular** system that is also contained in the inner ear. Balance and equilibrium help us stay erect when standing, know where we are in relation to gravity, and help us walk, run, and move without falling. The functioning of the vestibular system depends on information from many systems, hearing as well as vision and muscle feedback.

**Incidence of Hearing Loss in the First Nations Community**

Ear infections are noted to be much higher in the First Nations, up to 8% which is higher than the non-native populations in the same countries. The parent report of ear problems is measured at 15% of children in the communities. With this level of involvement of ear problems with following greater or lesser hearing loss, awareness of problems is amongst one of the most significant problems in the school setting.

**Genetic Hearing Loss**

Those children with a parent or parents with a genetic loss of hearing should be tested for hearing loss when beginning school if not earlier. The genetic presence of hearing loss in a family is a caution not a guarantee of hearing loss in children.

**THE HEARING IMPAIRED CHILD IN THE CLASSROOM**

The terms 'hard of hearing', 'deaf' and 'hearing impaired' cover a wide range of conditions which affect a child’s listening ability and often their educational and social development.
2 Types of Hearing Loss

1. Conductive
This is caused by problems in the outer or middle ear which prevent the sound from being 'conducted' to the inner ear and hearing nerves. The hearing may fluctuate and may affect one or both ears to varying degrees. Conductive problems generally affect the quantity (loudness only) of the sound that is heard. It is usually medically or surgically treatable. A common cause of conductive loss in children is middle ear infection.

2. Sensorineural
This type of hearing loss is due to a problem in the cochlea (the sensory part of the ear) or the hearing nerve (the neural part). It can be acquired or be present at birth. There is usually a loss of clarity as well as loudness, i.e. the quality and the quantity of the sound is affected.

NOTE: It is possible to have both a conductive and a sensorineural hearing loss. This type of loss is called a mixed hearing loss.

On the following page is the familiar audiogram. It shows the range of the phonological sounds along with sample noise emissions of various objects that the human ear hears. The audiogram also displays the degrees of hearing loss.
Accommodations in the Classroom

Seating

- Seat the hearing impaired student close to the teacher for the best sound reception and visual information. However, don’t restrict them to only one location. Allow the student to move to a better listening position if they wish.
- Check the student has a clear view of the whole class for participation in group activities if possible.
- If one ear is better than the other, ensure the better ear is directed to class and teacher.
- Seat the student away from noisy areas. It may be necessary to change the seating arrangements for particular activities.

Visual supplements

- Ensure good lighting on your face. The glare of strong lighting (such as a window) behind the speaker makes lip reading difficult.
- Speak clearly but naturally; exaggeration or shouting can make it more difficult for the child to understand speech.
- Try to remain in one area while talking. It’s difficult to lip read someone moving about a lot.
- Don’t talk while your back is turned to the child (e.g. when writing on the blackboard).
- Try to use as many visual aids as possible.
- When reading aloud, try not to let the book cover your face.

Tips for Working with Students with a hearing impairment

- Be sure the student is paying attention (not just looking) to the lesson.
- Check with the student to ensure that the information and/or instructions were understood.
- It may be helpful to have another student act as a buddy for the hearing impaired student.
- Reduce or eliminate background noise whenever possible.
- The hearing impaired student will need breaks as it is very hard work to stay totally attentive for long periods of time.

Technology and working with children with hearing impairments

1. When a classroom is equipped with a sound-field amplification system, all the children, regardless of seat location and the direction the teacher is facing, are able to hear the teacher. This also provides the teacher with an opportunity to maximize the listening and learning opportunities in a classroom. An amplification system includes a wireless microphone/transmitter that the teacher wears (similar to a FM unit), a receiver, an amplifier and 2-5 individual speakers or a single ceiling-mounted speaker. The teacher’s voice is amplified and projected.
out into the classroom via the speakers so the students can hear the teacher equally well, no matter where they are seated in the classroom.

2. Hearing Aids
Hearing aids are devices used in some forms of deafness to amplify sound before it reaches the auditory organs. Modern hearing aids are electronic. They contain a tiny receiver and a transistor amplifier, and are usually battery powered.

Hearing aids are devices that require some maintenance and if a student is having difficulty, there are a number of items a PERA can check to ensure the aid is working properly.

• Is the battery working or should it be replaced?
• Does the ear mold still fit if child (ear molds are like shoes and must be changed as student grows)?
• Can the student put the aid in the ear properly or does he/she require more instruction?
• Does the student take out the aid because of a sore ear (this must be referred to the teacher)?

3. Cochlear Implants
This is a surgically implanted device that requires specific training and teaching. Care and teaching should be individually designed by audiologist and speech and language pathologist for the child.

Deaf and Hard of Hearing websites:

• [https://clercenter.gallaudet.edu](https://clercenter.gallaudet.edu) - World Around You Magazine for young people and Odyssev magazine for Deaf education.
• [http://clercenter.gallaudet.edu](http://clercenter.gallaudet.edu) Gallaudet University
• [http://www.phonicear.calindex.html](http://www.phonicear.calindex.html) Equipment for Deaf and Hard of Hearing
• [http://www.asha.org](http://www.asha.org) - Speech and Hearing Association
• [http://www.cad.ca](http://www.cad.ca) - Canadian Association of the Deaf
• [https://www.ccsdeaf.com](https://www.ccsdeaf.com)
• [http://www.wfdnews.org](http://www.wfdnews.org) - World Federation of the Deaf
• [http://www.deafcanada.com](http://www.deafcanada.com)
• [http://www.deafchildren.bc.ca](http://www.deafchildren.bc.ca)
• [http://www.agbell.org](http://www.agbell.org) - Alexander Graham Bell Association for Deaf and Hard of Hearing
Obsessive Compulsive Disorder (OCD)

Introduction:

Obsessions are unwanted, intrusive irrational thoughts that produce anxiety and occur over and over again in the person’s mind. Compulsions are ritualized behaviors the person does to deal with the obsessions. Children with OCD often have repeated behaviours of counting or checking. These children have overactive/ increased neuro-chemical activity in the frontal cortex of the brain. (Packer Pruitt and Green, notes from lecture, Winnipeg, 2002)

Features and characteristics:
Behaviour Uniqueness:
- counting
- checking
- overly anxious behavior
- meltdowns
- tantrums
- preservation
- inability to follow direction
- may be seen to “be in another world”

Diagnosis:
The diagnosis of OCD should be made by a psychiatrist trained in working with children with anxiety disorders. A psychologist can screen for OCD. OCD may occur concurrently with ADHD and Tourette’s Syndrome.

Symptoms may include some, all, or perhaps none of the following:
- repeated hand-washing
- specific counting systems i.e. counting in groups of four, arranging objects in groups of three, grouping objects in odd/even numbered groups, etc.
- perfectly aligning objects at complete, absolute right angles, etc.
- having to "cancel out" bad thoughts with good thoughts
- sexual obsessions or unwanted sexual thoughts i.e. fear of being homosexual
- fear of contamination i.e. tears, mucus, etc.
- a need for both sides of the body to feel even i.e. while walking down a sidewalk, stepping on a crack with the ball of the left foot, then feel the need to step on another crack with the ball of the right foot or if one hand gets wet, the sufferer may feel very uncomfortable if the other is not

There are many other possible symptoms, and one need not display those above to suffer from OCD. Furthermore, possessing the symptoms above is not an absolute sign of OCD.
Obsessions:
Common OCD obsessions include fears of acquiring disease, getting hurt, or causing harm to someone. Obsessions are typically automatic, frequent, distressing, and difficult to control or put an end to. People with OCD who obsess about hurting themselves or others are actually less likely to do so than the average person.

Compulsions:
Compulsions are actions that the OCD sufferer willingly performs, most often repeatedly, in an attempt to cause the obsession to go away. Most of the time the actions become so regular that it is not a noticeable problem. Common compulsions include excessive washing, cleaning, checking; hoarding; repetitive actions such as touching, counting, arranging and ordering; and other ritualistic behaviors that the person feels will lessen the chances of provoking an obsession. Compulsions can be observable — washing, for instance — but they can also be mental rituals such as repeating words or phrases, or counting. (Copied from http://en.wikipedia.org/wiki/Obsessive-compulsive_disorder)

Recommendations:
Classroom adaptations / modifications:
• create safe emotional space
• help the students and family to understand the disorder
• share and plan with treatment specialists
• provide opportunities for counseling and expression of feelings

Treatment needs to be conducted by a specialist in systematic desensitization. This may be a therapist, a psychologist or a psychiatric nurse with specific expertise in this area.

Resources:
St. Boniface General Hospital, The Anxiety Disorders Program, Winnipeg
Scotopic Sensitivity Syndrome (aka Irlen’s)

Introduction:

Irlen Syndrome / Scotopic Sensitivity Syndrome is a perceptual disorder which is neurologically based. Irlen’s prevents an estimated 10-12% of the population from being able to learn, read, or study efficiently. Irlen’s has a genetic component and affects both males and females equally.

Scotopic Sensitivity Syndrome was first identified by Educational Psychologist Helen Irlen while she was working as Director of the Adult Learning Disability Program as CSULB in the early 1980’s. She developed a patented treatment method for Irlen’s which uses colored filters either worn as glasses or plastic sheets to reduce or eliminate the perceptual difficulties affecting reading.

Individuals who have Irlen’s often experience distortions when viewing black print on white paper. There are a variety of distortions. Not everyone experiences the same or all of the distortions.

General statistics for individuals having Irlen’s are as follows:

- 12-14% of general population, gifted, and good readers
- 46% of those with specific learning disabilities and reading problems
- 33% of individuals with ADD / HD and behaviour problems
- 55% of individuals with head injury, concussion or whip lash
- (90-94)% of individuals with autism and certain medial/ visual problems

Characteristics/Features/Attributes:
Individuals with Irlen’s can have any or all of the following characteristics:

- Light sensitivity
- Inefficient reading
- Slow reading rate
- Attention deficit
- Strain or fatigue
- Poor depth perception
- Strain or fatigue from computer use
- Difficulty reading music
- Sloppy, careless math errors
- Misaligned numbers in columns
- Ineffective use of study time
Reading Characteristics
• Poor comprehension
• Skips words or lines / Misreads words
• Reads slowly or hesitantly
• Takes breaks
• Loses place
• Avoids reading
• Reads in dim lighting

Complaints While Reading
• Strain or fatigue
• Tired or sleepy
• Headaches or nausea
• Fidgety or restless

Writing Characteristics
• Trouble copying
• Unequal spacing or letter size

Behaviour Uniqueness
• Short attention span
• Poor listening skills
• Energy level (low or high)
• Motivation
• Limited and inconsistent work production
  Poor mental health

Movement/Balance Disorder
• Clumsiness
• Difficulty catching balls
• Difficulty judging distance
• Difficulty accurately perceiving the environment

Diagnosis:
Screening and overlays
  -- 1 hour to identify individuals who can be helped
Diagnostic testing and filters
  --2 ½ hour diagnostic testing to determine colour prescription
BLURRY

BY ANDREW I. SOSTER
AND RICHARD L. WYATT

As any parent, grandparent, or
baby-sitter knows, some babies
are adaptable, placid, and regular in
their habits, while others are diffi-
cult and unpredictable. Differences
in temperament show up from the
first day of life. Some infants sleep
very little; others sleep a lot; some
infants have highly sensitive and
cosby, others are quiet and unemotional.

Since newborns have not been ex-
guised to the world for many
environ-
ments, the variations beyond the
world can hardly account for many
differences in temperament. The

terences may be largely a result of

genetic influences. The above has been
true, if any, attempts to reduce differ-
ent biological environments at birth

No one has been found in research at the
National Institute of Mental Health (NIMH)
that behavioral differences
in newborns are associated with an
universe that cumulates in such the

homelike environment, homeroom
(NIMAO). By comparing the
amounts of NEDO in the blood of
newborns with their performance
on behavioral tests, it was constated
that newborns with lower levels of
NIMAO tended to be more irritable and
unusual than those with high NIMAO.

The lower NIMAO in newborns were

more active and performed better on
tests relating to motor functioning.

In the brain, researchers believe
that NIMAO influences behavior by
blocuclating the ultrasonic mamma-

lary messages between neurons.

Newborns with lower NEDO scores
strictly the lower half that would otherwise be activated. Low

levels of NEDO in women usually

result in higher activity in the brain.

We know that some of our

screams are based on the way we

connect with the world, and this

may cause some distress and depre-

sion. Some had lower-than-normal

amounts of MAO in their blood. In a

study of normal adults, Monte

Buchsiman and his associates un-

covered an association between low

MAO and a variety of distinctive

personality traits, including guar-

nerness, a tendency to drink and experi-

ence with drugs, an active, varied

sex life with a preference for activi-

ties such as creative writing.

WAS MAO present in the blood of

infants in the warm relative

months. (same-egg) twins have

similar amounts and people in

some family generally have quite

similar amounts. Thus, we assu-

ge that the MAO levels found in

blood at birth are biologically fix.

To measure behavioral differences
among our sample, we gave the

Newborn Behavior Assessment Scale

(NBAS) to the 23 infants on their

first day of life. The NBAS assesses

behavior and provides an evalu-

ation of their motor functioning at

nerve patterns. In one group,

for example, the examiner

ings a bell, shakes a rattle, or

shines a flashlight at sleeping new-

boms to assess their ability to screen

out stimuli; infants who wake early

and cannot stop responding are either

more arousable or have less efficient

information-processing skill.

To know how MAO related to the

infants' NBAS scores, we compare

the infants who had the most MAO
to those with the least MAO. Th

most notable difference was a

accommodation. During the 30

minutes of testing, low-MAO

newborns were much more active and

unusual; they cried more often,

shivered more, opened more, and

registered more

shudders and rocking to quiet down.

They also displayed better muscular

accommodation.

Our research shows that even one

year after the babies were born and

very close to their birth, the behavior was consis-
tent with their newborn scores.

The lower MAO levels in newborns may be

related to the development of emotional

behaviors. It is also an

questionnaire whether those behavi-

oral and psychological scores are con-

sistent throughout the months. Styl-

eshow behavior, whether the infant's

normal behavior is similar to his

preferred in the same situations, or if

more instrumental activities.

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HALO

We all see thing the same way. We see words in groups or phrases. The print is more dominant than the background. The print shows no movement. The printed letters are evenly black. Black print on white paper gives the best contrast for everyone. White background looks white.

We all see thing the same way. We see words in groups or phrases. The print is more dominant than the background. The print shows no movement. The printed letters are evenly black. Black print on white paper gives the best contrast for everyone. White background looks white.

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SWIRL

various solutions that interest groups provide an administrative structure, involving more complex problems, including social rights, social policies, and social services. This structure may also be used to create political organizations that are more visible, and this is one of the key issues of how effective public policies are. It is often difficult to see the end of one policy, as the political world is a series of events, and it is hard to predict what will happen next.

Another aspect of policy-making is the frequent use of interest groups to advance particular issues. These groups often represent a set of interests and have the ability to bring attention to particular issues. As a result, they can influence the political process by educating the public and by providing a voice for those who are not heard. It is often difficult to see the end of one policy, as the political world is a series of events, and it is hard to predict what will happen next.

A related problem is that of the failure of the government to provide adequate services to meet the needs of the elderly. This is often due to the lack of coordination between public and private agencies, and the failure to integrate the many different services available. It is often difficult to see the end of one policy, as the political world is a series of events, and it is hard to predict what will happen next.

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WASHOUT

Draw-A-Person Test
Arthur's drawings were rather constricted and seemed to reflect anxiety.

OBSERVATIONS:
Arthur is a friendly, talkative boy who speaks in a rather loud voice. He is often seen as a nervous, high-strung youngster. He was restless, frequently tapping his fingers on the table and moving about after sitting still. Arthur seemed to be making a good effort on all the test items, but his anxiety and fears may have been affecting his attention for any length of time. Some anxiety was noted. Arthur appeared to resist academic tasks, reporting it as a positive behavior which included diverting conversation, making excuses, and making comments which produced falselily favorable conditions. Arthur expanded considerably in avoiding a job rather than accepting the responsibility for it. He was anxious concerning his performance, and he frequently requested reassurance as to accuracy of his responses. It was important to him to do well, and he became anxious and nervous when he was threatened with failure. Arthur did not give up the challenge, but he sometimes needed to be encouraged or reminded that task avoidance would not be effective in this situation.

CONCLUSION AND RECOMMENDATIONS:
The current psychiatric data suggests that Arthur is functioning in the high-to very superior range of intelligence. Considerable scatter was noted on the sub scores of the WISC. Arthur had the greatest difficulty with those tasks requiring sustained and immediate auditory and visual memory and arithmetic reasoning ability. His strength was concentrated in the non-verbal skills. He demonstrated a remarkable improvement in the analysis and formation of abstract designs and in the awareness of one concept and two sequences; Arthur reached the ceiling score on both in all of these. The examiner feels that the results of the verbal section of the WISC may represent a clinical evaluation of Arthur's potential in these skills. The weaknesses of his performance seem to reflect, in part, his irregular school attendance and slow academic prior, and some perceptual immaturities. Borderline deficiencies on the verbal association and auditory sequential memory subtests of his were noted, and these weaknesses were also indicated by Arthur's performance on the task. He has difficulty sustaining his attention, and he seems to have a disability like the auditory perceptual modality, the extent of this auditory problem is obscured by the degree of anxiety present and the limited exposure to the development of listening skills required in the regular classroom setting. Evidence of a delayed visual-perceptual development was also noted and the primary difficulty appeared to be an poor fine motor control; Arthur has trouble with handwriting and seems to mix manuscript cursive forms, suggesting some confusion and a need for individualized instruction.
Accommodations:
Classroom adaptations / modifications
• use coloured overlays for reading books, viewing computer screens & overhead projections
• use Irlen tinted lenses
• use paper that has been recycled, or off-white, or non-glare, or coloured
• use magnifying bars
• use book stands
• change lighting by dimming / reducing it or using natural daylight, or allowing the wearing of hats in class
• avoid fluorescent lighting
• use markers to draw above, below, to the side of the line of important print
• use markers / chalk that are not red or yellow as they are hard to see
• use chalkboards that are gray or brown
• write notes in columns
• duplicate tests on coloured paper

Environmental Modifications
• avoid bright or fluorescent colours
• avoid stripes, plaids, or polka dots
• avoid large or glittery jewelry or buttons
• wear a visor or brimmed hat
• reduce lighting
• use incandescent or indirect natural lighting

Program adaptations/modifications
• Allow more time for reading
• Break assignments into smaller portions
• Watch print font and print size used

For the initial screening survey, Self-Test For Irlen Syndrome, see Section O.

Resources:


Stuttering

Introduction:

Stuttering affects the fluency of speech. It begins during childhood and, in some cases, lasts throughout life. The disorder is characterized by disruptions in the production of speech sounds, also called "disfluencies." Most people produce brief disfluencies from time to time. For instance, some words are repeated and others are preceded by "um" or "uh." Disfluencies are not necessarily a problem; however, they can impede communication when a person produces too many of them.

In most cases, stuttering has an impact on at least some daily activities. The specific activities that a person finds challenging to perform vary across individuals. For some people, communication difficulties only happen during specific activities, for example, talking on the telephone or talking before large groups. For most others, however, communication difficulties occur across a number of activities at home, school, or work. Some people may limit their participation in certain activities. Such "participation restrictions" often occur because the person is concerned about how others might react to disfluent speech. Other people may try to hide their disfluent speech from others by rearranging the words in their sentence (circumlocution), pretending to forget what they wanted to say, or declining to speak. Other people may find that they are excluded from participating in certain activities because of stuttering. Clearly, the impact of stuttering on daily life can be affected by how the person and others react to the disorder.

What are signs and symptoms of stuttering?
Stuttered speech often includes repetitions of words or parts of words, as well as prolongations of speech sounds. These disfluencies occur more often in persons who stutter than they do in the general population. Some people who stutter appear very tense or "out of breath" when talking. Speech may become completely stopped or blocked. Blocked is when the mouth is positioned to say a sound, sometimes for several seconds, with little or no sound forthcoming. After some effort, the person may complete the word. Interjections such as "um" or "like" can occur, as well, particularly when they contain repeated ("u- um- um") or prolonged ("uuuuum") speech sounds or when they are used intentionally to delay the initiation of a word the speaker expects to "get stuck on."

Some examples of stuttering include:
• "W- W- W- Where are you going?" (Part-word repetition: The person is having difficulty moving from the "w" in "where" to the remaining sounds in the word. On the fourth attempt, he successfully completes the word.)
• "SSSSave me a seat." (Sound prolongation: The person is having difficulty moving from the "s" in "save" to the remaining sounds in the word. He continues to say the "s" sound until he is able to complete the word.)
• "I'll meet you – um um you know like – around six o'clock." (A series of interjections: The person expects to have difficulty smoothly joining the word "you" with the word "around." In response to the anticipated difficulty, he produces several interjections until he is able to say the word "around" smoothly.)

How is stuttering diagnosed?

Identifying stuttering in an individual's speech would seem like an easy task. Disfluencies often "stand out" and disrupt a person's communication. Listeners can usually detect when a person is stuttering. At the same time, however, stuttering can affect more than just a person's observable speech. Some characteristics of stuttered speech are not as easy for listeners to detect. As a result, diagnosing stuttering requires the skills of a certified speech-language pathologist (SLP).

During an evaluation, an SLP will note the number and types of speech disfluencies a person produces in various situations. The SLP will also assess the ways in which the person reacts to and copes with disfluencies. The SLP may also gather information about factors such as teasing that may make the problem worse. A variety of other assessments (e.g., speech rate, language skills) may be completed as well, depending upon the person's age and history. Information about the person is then analyzed to determine whether a fluency disorder exists. If so, the extent to which it affects the ability to perform and participate in daily activities is determined.

For young children, it is important to predict whether the stuttering is likely to continue. An evaluation consists of a series of tests, observations, and interviews designed to estimate the child's risk for continuing to stutter. Although there is some disagreement among SLPs about which risk factors are most important to consider, factors that are noted by many specialists include the following:
  • a family history of stuttering
  • stuttering that has continued for 6 months or longer
  • presence of other speech or language disorders
  • strong fears or concerns about stuttering on the part of the child or the family

No single factor can be used to predict whether a child will continue to stutter. The combination of these factors can help SLPs determine whether treatment is indicated.
For older children and adults, the question of whether stuttering is likely to continue is somewhat less important, because the stuttering has continued at least long enough for it to become a problem in the person's daily life. For these individuals, an evaluation consists of tests, observations, and interviews that are designed to assess the overall severity of the disorder. In addition, the impact the disorder has on the person's ability to communicate and participate appropriately in daily activities is evaluated. Information from the evaluation is then used to develop a specific treatment program, one that is designed to:

- help the individual speak more fluently,
- communicate more effectively, and
- participate more fully in life activities.

What treatments are available for stuttering?

Most treatment programs for people who stutter are "behavioral." They are designed to teach the person specific skills or behaviors that lead to improved oral communication. For instance, many SLPs teach people who stutter to control and/or monitor the rate at which they speak. In addition, people may learn to start saying words in a slightly slower and less physically tense manner. They may also learn to control or monitor their breathing. When learning to control speech rate, people often begin by practicing smooth, fluent speech at rates that are much slower than typical speech, using short phrases and sentences. Over time, people learn to produce smooth speech at faster rates, in longer sentences, and in more challenging situations until speech sounds both fluent and natural. "Follow-up" or "maintenance" sessions are often necessary after completion of formal intervention to prevent relapse.

Resource:
http://www.asha.org/public/speech/disorders/stuttering.htm
**Visually Impaired**

**Introduction:**

The eye is an amazing organ and has many component parts, all of which must work in coordination to ensure true and accurate vision. The following is an illustration of the eye with the main external components identified.

These are the components you see when you look at someone's eyes.

![Illustration of the eye with labeled components](Image)

*Illustration by Mark Erickson*

The main internal components of the eye are:
How Does the Eye Work?

When you look at an object, light rays are reflected from the object to the cornea, which is where the miracle of begins. The light rays are bent, refracted and focused by the cornea, lens, and vitreous. The lens’ job is to make sure the rays come to a sharp focus on the retina. The resulting image on the retina is upside-down. Here at the retina, the light rays are converted to electrical impulses which are then transmitted through the optic nerve, to the brain, where the image is translated and perceived in an upright position.

This is very like the workings of a camera and many of the functions are the same. In the eye the camera lens is composed of the cornea, lens, and vitreous. The film is becomes the retina. The critical focusing is done by the macula and is like the adjustable focus lens of the camera.

How Does the Visual Process Work?

In the normal eye the light rays enter through the cornea and are bent. This process is known as refraction. The light rays pass through the aqueous humor to the iris. The iris controls the amount of light going to the inside of the eye by getting larger (dilating) or getting smaller (contracting). The rays are then refracted a second time to fine tune the focus. This second refraction process is called accommodation. The rays of light then focus on the retina. From the retina the images are changed to electric impulses that travel through the optic nerve to the brain for interpretation, and we “see”.

Common Eye Problems related to **Refraction:**
(Refraction is the deflection of light rays from a straight path passing obliquely from one medium (as air) into another (as in vitreous humor) in which its velocity
is different and the ray bends.)

The most common problems of refraction are:
1. Myopia or nearsightedness - in which the person has difficulty focusing on distant objects but can focus on near objects.
2. Hyperopia or farsightedness - in which a person has difficulty focusing on near objects but can focus on far objects.
3. Astigmatism alone or in conjunction with other problems is related to irregular curve of the cornea. This results in distorted vision.

Children, who are blind or have reduced or limited vision, have unique needs. Children that have difficulty learning because of visual input difficulties require accommodations to be made to assist this student.

**The Legally Blind Child**

The definition of a legally blind child is a legal one and is “a person shall be considered legally blind whose central acuity does not exceed 20/200 in the better eye with correcting lenses or whose visual acuity if better than 20/200 has a limit to the central field of vision of no greater than 20 degrees.”

To further explain the word “acuity” means clarity of vision. Normal vision is measured at 20 feet, and the measure of loss of vision is compared to this standard. If you see a number of 20/80 it means that a visually impaired person sees at 20 feet what a person normal vision sees at 70 feet.

This means the child must be diagnosed by a clinician and the limits of vision will be established during this time. The severity of the vision loss will establish the level of support the child may need during school activities. Those students with the most severe loss may need to be taught to use Braille, mobility and orientation training, and functional living skills.

Legally blind children may have some vision and part of teaching the visually impaired is to utilize what vision is available. This may be through the use of low vision aides and technology.

If a child has been assessed by an eye specialist, the report will place a number as a term of description to indicate the degree of loss of vision. These numbers help to understand the varying degree of loss. It is helpful to understand what these numbers mean.

Visual Acuity is measured with a Snellen chart. This is a chart that you will have seen in a doctor’s office or in the eye specialist office. The chart consists of a number of lines of letters and figures that begin large and graduate to small. The results are given as a fraction such as 20/70. This means that the person being tested can see at 20 feet what a normal person can see at 70 feet.
There are other losses that can occur including loss of peripheral vision, loss of core vision, reduced or altered field of vision. These are conditions that create the condition known as low vision. Low vision is defined as the situation of an individual retaining some usable vision but is unable to carry out desired tasks because of impaired visual function.

What Are Some of the Classroom Needs of Visually Impaired Students?

Visually impaired students are now included in community schools and it is important to understand the role of vision in the learning process. About 80% of information we receive is received through visual channels. For those students who cannot see we must be prepared to present information and experiences in other formats or in supported activities in the classroom.

If a child comes to the classroom with a diagnosis of visual impairment other techniques can be employed to provide information and experiences. It will be necessary to provide information through other sensory inputs such as large print or Braille, and/or auditory inputs. Tactile opportunities will help the child learn experientially. Special seating and lighting may be advantageous for children with low vision. Depending on the degree of visual loss the student may require mobility and orientation (M and O) training. Ideally this skill will be directed by a M and O trainer or in some other situation an occupational therapist will provide the training program but the day to day program may be carried out by classroom staff. The place of technology for children with visual impairments cannot be underestimated. The era of talking computers and voice activate equipment can greatly enhance the potential of the child.

If a child has other disabilities as well as vision loss, other professionals such as an occupational therapist, speech and language pathologist, and or a behavior specialist may become involved. The composition of the team will depend on the specific impairments of the child.

The child you think may have a visual problem:

There are many reasons why children are having difficulty in a classroom. Visual impairment especially an undiagnosed impairment is the one which may be demonstrated by many symptoms or behaviours including but not limited to:

- Tendency to rub eyes
- Squinting, linking, twitching of eyes
- Extreme sensitivity to light
- Unusual eye movements
- Tendency to close one eye when looking at materials
- Complaint of pain or discomfort in eyes
- Poor eye hand coordination
Consideration when planning for children with visual deficit-the IEP:

• Visual loss is more than the ability to see. It is related to all areas of function
• Visual skill training must cross all subject and activity boundaries
• Social skill development must be an integral part of all activities
• Goals must translate to all life situations
• Independence or the highest possible level of independence must be an ultimate goal of all programs.
• Environmental accommodation must be made for students
• Evaluation may be accomplished using alternative formats

Visual Difficulties that are not considered visual impairments

• Those children with visual processing difficulties may require additional assistance from other professionals to program for these needs.
• Children with visual perception, spatial relations, visual motor and/or visual memory difficulties should be referred to other professionals for assessment and program development.