

# Individuals with Profound Disabilities<sup>1</sup>

## Part 2

<sup>1</sup> Sternberg et al. (1994). Individuals with Profound Disabilities: Instructional and Assistive Strategies. (3<sup>rd</sup> ed., pp. 41-46, 89-112, 128-162). Austin, TX: PRO-ED.

# Biomedical Conditions: Types, Causes, and Results

The presence of a brain disorder is the only condition that will account for the existence of a profound disability. Brain disorders occur as a result of one or the other of the following processes:

1. Abnormal brain development from the beginning of the formation of the brain (brain dysgenesis).
2. Adverse influences that alter the structure and/or function of a brain that had developed normally up to that point in time (brain damage).

Another important distinction concerns the extent of brain abnormality:

1. *Focal* abnormalities involve only one part or several parts of the brain while other unaffected parts of the brain may be fairly normal.

Plasticity (the ability for the brain to reorganize itself in an attempt to restore function) is more likely to occur with focal abnormalities.

2. *Diffuse* abnormalities involve all of the brain so that no part of the brain is normal.

# Identifiable causes of profound disabilities

- Prenatal = events occur during fetal life from conception to birth (chromosomal disorders, syndrome disorders, inborn errors of metabolism, disorders of brain development, and environmental influences).

- Perinatal = events occur during the birth process and in the first few weeks after birth (intrauterine disorders and neonatal disorders).
- Postnatal = events occur during infancy and childhood (head injuries, infections, degenerative disorders, seizure disorders, toxic or metabolic disorders, and environmental deprivation).

# Assessment

## Behavioral Issues and Practices:

Without a clear understanding of the relationship between the presence of biomedical conditions and the presence (or absence) of specific behavior, the efficacy of any intervention may be questioned.

1. Behavioral Deficits = Behaviors that do not occur at an acceptable level or rate:

a. Precursor thresholds include arousal, awareness, orienting, and responsiveness. These are requisite to the display of all behaviors.

b. Adaptive behaviors are those that, when acquired and performed successfully, assist the individual to become more independent and better able to adapt to a variety of appropriate environments.

Typically, these behaviors include social skills related to appropriate interactions, interpersonal skills, and social-communicative behaviors, and include skills related to independent living such as personal hygiene.

2. Behavioral Excesses = Undesirable behaviors that occur too frequently – also referred to as aberrant behaviors.

An individual's type and level of aberrant behavior can affect their ability to acquire and display various social skills. The aberrant behaviors interfere with their ability to attend to relevant aspects of social skills training situations.

Two conditions must be met before a behavior change program is formalized.

1. Functional Analyses: Systematically charting events that precede (antecedent) and immediately follow (consequences) the behavior; provides direction in choosing a specific behavior change strategy and generates ideas concerning the intent (function) of the behavior.

2. Prioritize the behaviors that should be changed – how serious is the behavior (life threatening, potentially harmful to others, etc.).

# Positive Alternatives

- Implies that one can decrease behavior excess by providing intervention or instruction toward developing a more positive behavior.
- Often this positive alternative will serve the same function as the inappropriate behavior.

- When one is at the point of selecting a consequent behavioral technique, the flow of behavioral options should be outlined so that the practitioner can see the options that might be available for dealing with the targeted behavior.

- A range of behavioral options is provided based on the concept that the least intrusive (least restrictive) technique should always be opted for initially; that is the selected procedure should be as natural, non-disruptive, and non-aversive as possible to the individual and to others.

- Also, any other technique considered as a result of the individual's not reaching criterion should proceed from less restrictive to more restrictive.

Any reductive procedure will produce diminishing returns if positive alternatives are not quickly provided.

# Self Injurious Behavior

The prevalence of self injurious behavior (SIB) is relatively high among individuals with profound retardation.

The rate of SIB correlates directly with the degree of mental retardation – the greater the degree of retardation, the higher the incidence of SIB.

## Interventions include:

- Differential reinforcement: This is generally positive but greater training time is necessary.
- Overcorrection: This is not the most effective due to negative side effects and a lack of generalization and maintenance.

- Use of Aversives: This has short-term effects.
- Use of Medication: The efficacy of drug therapy is not promising; it can result in non-significant results and have negative side effects.

- Restraint Procedures: This includes physical restraint and protective equipment – it decreases social interactions.
- Other Approaches: This includes satiation, functional language communication, changes in nutrition, etc.

- Sensory Stimulation: This can be used both contingently as a type of reinforcer or non-contingently as a "substitute" for SIB.

Examples of sensory stimulation include a vibrator for rumination and hand mouthing behaviors, a vibrator and a flashing red light used alternately to reduce head hitting, vestibular stimulation for a variety of SIBs with non-ambulatory individuals, and alternate sensory activities using age appropriate toys.

Advantages: Ease of delivery, slow rate of satiation, unlimited variability, and availability of automated equipment that can be used.

It is paramount that, prior to the design and implementation of any intervention, consideration must first be given to the overall ramifications of the potential outcome of any application.

Practitioners cannot be content with considering only whether a proposed intervention will decrease a behavioral excess or increase a behavioral deficit.

In-depth attention should be paid to other matters.

- First, the concepts of excess and deficit should be defined in direct relation to the individual exhibiting or not exhibiting the behavior.

- Second, the function of that behavior serves for the individual should be extended beyond the framework of what one might observe as a function to what one might conceptualize or hypothesize as a function.

It is also important to consider the relevance of behavioral analysis to instructional and other assistive endeavors.

One of the predominant criticisms of the use of behavioral approaches, especially for intractable types of behaviors, has been that the techniques tended to focus only on a target behavior, and did not take into account how the changed behavior might impact or be integrated with other important behaviors.

Further, one must always consider whether reduction of excessive or inappropriate behavior leads to greater social opportunities and inclusion in the mainstream of community life.

A delicate balance must be maintained between changing the behavior and changing the attitudes of society regarding the acceptance of behaviors that are not the norm.

# Support For Sensory, Postural and Movement Needs

- Impairments in vision
- Impairments in audition
- Impairments or limitations with posture and movement

- Posture = The ability to maintain a stable position in space that serves as the foundation for controlled movement.
- Movement = The ability to engage in motor behavior that is coordinated, controlled, and accurate.

- Significant limitations in normal posture and movement may also contribute to the development of secondary health problems, such as respiratory difficulties, contractures and deformities, and skin breakdown.

- Therapeutic positioning: The selection of overall body positions that promote beneficial muscle length, improve breathing, and provide weight-bearing as recommended.

Therapeutic physical management techniques focus on improving health and maintaining movement capacity including postural drainage, joint range of motion, positioning, therapeutic handling, and relaxation.

Functional Adaptations = The use of equipment that permits supported performance of certain postures, such as sitting or switch interfaces, that permit interaction with the physical and/or social world in the absence of coordinated arm and hand function.

It is also imperative that prevention techniques be used to ensure staff or caregivers do not become disabled themselves as they provide continued physical care for individuals who are dependent.

The application of proper body mechanics is an essential aspect of any functional activity to protect oneself and to protect the individual.

# Functional Assessments

Purpose: To identify strengths and weaknesses, and identify aspects of the environment that can be modified to facilitate skill development.

Assessments should include the following:

1. Visual including binocular vision and peripheral fields.
2. Localization acuity (whether an individual is able to respond visually to functional, age appropriate materials within a variety of environments).
3. Visual-motor (tracking, scanning and gaze shift; reaching, grasping, and manipulating).

4. Audition (hearing) skills.

5. Posture and movement including integrating essential sensory skills and being sensitive to demand situations as well as fading physical assistance from handling procedures.

6. Sensory skills.

7. Essential skills including communication and language development.

## Special Health Care Needs:

Describes a wide range of conditions differentiated by varying etiologies and levels of severity and complexity.

- For example, an individual can be described by the number of health care procedures they receive, the presence and frequency of acute illness and impaired health associated with the conditions requiring special health procedures, the severity level and overall stability of the health condition, whether the condition is degenerative and the person is dying, and the impact of the health condition on cognition, mobility, and management of self care.

The adequate and timely training of all persons involved becomes a crucial element in the implementation of special health care procedures.

Training should be conducted by a certified or qualified health care professional in both general case application as well as the particular needs of the individual.

# References

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*For more information, see*  
*Individuals with Profound Disabilities*  
*Part 3*