RECOVERING FROM BRAIN INJURY:

A CONTINUAL PROCESS

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When individuals first began to survive head injuries, "spontaneous recovery" was thought to occur for 6-18 months. With the clock ticking, family members frantically attempted to pack rehabilitation into that small "window of recovery." Once the time expired (if not before) intensive structured efforts to regain skills ceased and it was assumed that the injured individual would make no further progress. It soon became painfully clear, however, that the major long-term problems faced by head injured individuals and their families were in the area of cognition and behavior. Physical problems, while important, were managed more readily than the decreased memory, impulsivity, poor judgment, and social inappropriateness which frequently accompanied head injury. In fact, many family members discovered that if the injured individual remained in a wheelchair, he/she was much easier to supervise and control than when fully ambulatory. The wheelchair itself served as a reminder that the injury had occurred and that some behaviors were no longer possible.

Fortunately, it has also become increasingly clear that even individuals who sustain severe head injuries continue to recover old skills and learn new skills throughout their lives when appropriate learning strategies and environments are provided. This does not mean that the individual is unchanged by the injury or will ever be exactly the same as before the injury: a wheelchair may be required for mobility, writing may be done with the non-dominant hand, or adaptive equipment used to perform some activities. The critical point is that individuals who have sustained head injuries, like the rest of us, have the ability to learn, to modify their behavior, and to lead satisfying and productive lives.

The following points may help family members understand head injury and the ways in which recovery can be maximized:

Head injuries make the injured individual different but not necessarily worse. The first task of a rehabilitation program is the identification of the injured individual's strengths and weaknesses. Within a medical model, this assessment may focus on CT scans, neurologic examinations, nursing and other therapy evaluations and, in some cases, brief neuropsychological screening. Such procedures, conducted in a medical setting, overlook critical data about how the individual functions in the home setting and how the individual's family deals with behavioral and cognitive problems. Furthermore, these assessments tend to focus on deficits to be remediated to the exclusion of assets which could be developed and strengthened.

Even when the evaluations of health care professionals suggest that the injured individual will not recover, family members need to maintain hope. That hope should, however, be supported by detailed information obtained from health care professionals and supplemented by your own observations of the individual's behavior in a variety of circumstances. Pay particular attention to how the individual behaves in familiar environments with familiar people. Ask friends and neighbors for their observations. The more information which is used to make decisions, the better the decisions will be.

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Successful rehabilitation treats the whole person in his/her normal environment. Since head injured individuals tend to have difficulty generalizing from one situation to another, rehabilitation efforts must consider the complete person at all times. Little progress will be made if speech therapy is conducted 2-5 times per week and never practiced outside the therapy setting. Similarly, if speech is only practiced in a seated position, the client may be unable to utilize new skills when standing or walking. The more new and emerging skills are practiced, the better they become. Repeated practice in a variety of settings facilitates making the new behaviors habitual.

Behavior control must precede cognitive and physical rehabilitation. The individual who survives a head injury may be confused, frustrated, angry, embarrassed, depressed or any of the other emotions we all experience. When simple everyday tasks become insurmountable challenges, the injured individual may lash out with words or fists, become extremely demanding, refuse to follow through on activities which would lead to independence, or engage in a variety of other behaviors which, while understandable, are inappropriate and destructive. Family members may understand the reasons for such behaviors, but if they are tolerated they will continue and probably worsen. It is critical that the injured individual be required to behave as appropriately as possible at all times.

If the injured individual's behavior is out of control, it is unreasonable to expect new learning to occur. Therefore, it is critical to develop effective behavior control by changing the environment, the caregiver, or the injured individual before directly addressing cognitive problems. Until the individual can attend and concentrate, learning will not occur. Inappropriate behavior may preclude admission to a rehabilitation program and severely increases the stress on family and the head injured individual. Many behavior problems of the head injured individual have little to do with the injury.

There is no such thing as a "plateau" in rehabilitation. Many rehabilitation professionals expect head injured individuals to "plateau", i.e., cease making progress, at some point in their treatment program. This belief usually terminates the formal rehabilitation program and ignores what we know about human development: growth ceases only with death. It is much more useful to view periods of apparent lack of progress as times of "consolidation", where the individual is gaining sufficient practice with new skills to make them become habits. When learning skills are impaired, it is unreasonable to expect the individual to learn new information and behaviors every day. Allow the individual a chance to glory in success before presenting new challenges.

Head injured individuals require tight structure in their daily lives to survive, grow and improve. Most of us lead highly structured lives: we awaken at the same time, follow the same pattern in morning hygiene, eat meals at the same time, and work the same hours each day. Grocery shopping, laundry, etc. are done on a schedule. This kind of structure allows us to put most of our lives on automatic pilot and reserve creativity, memory, and novelty for more important areas. Far too often, head injured individuals have no structure in their daily lives and therefore accomplish very little each day: they nap throughout the day and then can't sleep at night; they eat meals at varying times and therefore can't recall if they have eaten at all; they leave things wherever they please and then can't find them. Tight structure reduces the need to continually make decisions, vastly increases the capabilities of the injured individual, and significantly reduces the demands placed upon the caregiver.

The most effective rehabilitation following head injury occurs in familiar settings. Since head injured individuals frequently have difficulty generalizing new skills from one environment to

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another and learning new information, the most effective rehabilitation programs occur in the home setting/community where old learning is maximized. When injured individuals are transported to another city or state, much of what they learn cannot be applied when they return home: the familiar cues which facilitated recall in the treatment setting disappear and the new behavior cannot be elicited. Therefore, whenever possible, rehabilitation should occur in the individual's home and community.

Unconditional positive regard is unfair to the head injured individual. Head injured individuals have enough problems without increasing their burden by accepting any and all behavior. If family members tolerate behavior which drives others away, the injured individual becomes increasingly isolated from human contact and the burden on the caregiver becomes immense. The real world never offers unconditional positive regard and an individual who expects it will be sorely disappointed. One of the most constructive things you can do for head injured individuals is to provide accurate and realistic feedback on their behavior and its consequences.

Brain tissue may not re-grow, but we have only begun to explore the ability of the brain and body to find creative ways to accomplish tasks. Clinical practice and research are just beginning to explore the plasticity of the human brain and the results are overturning long-cherished beliefs about human potential. In my practice, for example, I have used hypnotherapeutic relaxation strategies to decrease severe ataxia and a variety of cognitive strategies to increase function in paretic extremities. In a more traditional vein, I have found that computers can be extremely powerful tools in rehabilitation. Unfortunately, the computer is a highly sophisticated tool which can do more damage than good. It is critical that programs be selected to meet the needs of the particular individual and that the material is presented at the appropriate level. It is frustrating to discover a head injured person who hates computers because they were presented at an inappropriate time or used inappropriate material.

One head injury is enough! Individuals who sustain a head injury are 3 to 8 times more likely to sustain additional head injuries. Some of these added insults occur because of the cognitive and behavioral deficits following the original injury: the impulsive person who has poor judgment may repeatedly place him/herself in dangerous situations and then be unable to cope. Adequate supervision reduces the risk but does not eliminate the possibility of additional injury. What can be prevented, however, is the additional risk presented by:

a. Exposure to toxic materials. Anyone who has sustained a head injury should avoid environments which have high concentrations of fumes or toxic substances. This includes paint and solvent fumes, chemicals, non-prescription drugs and alcohol.
b. Exposure to megavitamin therapy. Many vitamins and minerals are toxic in dosages above MDR and may interact in unknown ways with prescription medications or be metabolized differently by a damaged brain. A balanced diet may be one of the few pleasures left to a head injured individual and should meet nutritional needs without supplementation.
c. Failure to use seatbelts and protective headgear
d. Failure to take medications, particularly those required for seizure control, as prescribed.

Conclusion:

There is no question that maximizing recovery from head injury is expensive, time consuming, and emotionally draining. Like the rest of us, individuals who sustain head injuries rarely reach their full potential. At some point, the individual may "burnout" and decide that further efforts toward remediating deficits or acquiring additional skills is not worth the effort involved. The

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decision to temporarily suspend or terminate formal rehabilitation does not necessarily mean that recovery will stop or that skill levels will deteriorate. Even outside formal rehabilitation settings, individuals who have sustained head injuries will continue to grow, to develop new skills, to make new friends, and to earn their halos.

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