CLIENT: **Brittany Newberry**
DATES OF EVALUATION: **8/28/08 and 10/17/08**
DATE REPORT INITIATED: **12/15/08**
REPORT FINALIZED: **12/30/08**

Brittany Newberry is a 18 year old Caucasian female seen for evaluation in the office accompanied by her mother, Jerilyn Fae. Her attorney, Jared Monroe, referred Brittany for a rehabilitation evaluation. The purpose of this evaluation is to assess the extent to which handicapping conditions impede her ability to live independently, handle all activities of daily living, and assess the disability's impact on her vocational development status.

Demographic Information:

Client Name: Brittany Newberry; **Social Security #** XXX-XX-XXXX; **Address:** 555 Plantation Avenue Tampa, FL 33618; **County:** Hillsborough; **Closest Metro Area:** Same; **Phone**: XXX-XXX-XXXX; **Birthdate:** 2/27/90; **Age:** 18; **Sex:** Female; **Race:** Caucasian; **Marital Status:** Single; **Birthplace:** Indiana; **Citizen:** Yes; **Elementary/Secondary Education:** Elementary in Kentucky, Middle School in Tennessee, Kansas and Florida and High School in Florida.; **School at time of injury:** Gaither High School; **Position/Grade**: Sophmore (at time of injury); **Bilingual:** No; **Glasses:** Distance; **Dominant Hand**: Right Pre - see limitations; **Height:** 5' 4"; **Weight (Present):** 100 lbs.; **Weight (Pre-injury):** 120 lbs.; **Date of Onset:** 5/6/06.

History: Brittany indicates she was involved in a MVA on 5/6/06. She reports a loss of consciousness (LOC) in the accident. Records indicated a Glasgow Coma Score (GCS) of 5 at the scene. She was treated at the scene by Hillsborough County Fire Department and transported by Life Flight to St. Joseph's Hospital. In the Emergency Department her GCS was determined to be a 3. Jerilyn notes she was informed by the Highway Patrol at her home a little after 11:30 p.m. Her accident was around 10:30 p.m. Jerilyn and her husband along with their infant arrived at St.Joseph's after midnight. They were not allowed into the ED to see her because the trauma surgeons were working on Brittany. Eventually Jerilyn was able to see Brittany and she was intubated at that time. She described what sounds like decerebrate posturing with both arms moving constantly. *"She appeared to be very uncomfortable"*. She remained unconscious and nonresponsive.

"The doctors told me she broke her neck and would probably never walk. She had a collapsed lung and she had a lot of bleeding and bruising in her lungs.

They said it was very serious and we do not know how well she is going to do. I just sat there and just watched them all. Later they took my husband and I into a side room and told us she would require surgery the next day, she had little chance of walking again and the worst part was her lungs were seriously damaged and for a quad to have that much damage was a serious problem."

Loss of Consciousness or Altered State of Consciousness: Yes.
Length of Unconsciousness or of Altered State: She remained unconscious for a least three weeks according to Jerilyn. She began to show the first signs of consciousness after she was extubated. *"She would look at me and turn away without response but then she slowly began to come out of it"*.
Independent Recall: Brittany has no independent recall of the accident. She has no independent recall of being in St. Joseph's Hospital. Brittany indicates she has some recall of events at Shepherd Center, although not a full recall. *"I remember hating it. I also lost much of my recall of the three years prior to my injury."*.

Rehabilitation Program(s) [In/Outpatient Since Injury]:
Brittany was admitted to St. Joseph's Hospital on 5/6/06 where she remained through 6/14/06. Chest X-ray showed severe contusion of the right lung as well as a pneumothorax; chest tube placed. CT of the head and neck showed evidence of a C-spine fracture at C6-7. Examiners felt her hypotension was due to spinal shock. She remained slightly purposeful but never moved her legs. She was considered quadriplegic, incomplete, in the emergency room. Steroid protocol was initiated.

On 5/9/06 she underwent placement of a halo, posterior cervical C6-7 laminectomy, C5 through C7 lateral mass plating with reduction of jumped facets, C6-7 anterior cervical diskectomy with partial C6 corpectomy. Allograft was used in a ventral dural decompression and placement of an Atlantis plate was completed. She was admitted to the ICU with a diagnosis of C6 quadriplegia and right lung contusion. She was started on total parenteral nutrition and had a jejunostomy tube placed. On 5/12/06, she was noted to be flexing and withdrawing her UE's. She ran very high fevers throughout her hospitalization and was started on IV antibiotics. She had a tracheostomy on 5/18/06.

MRI of the brain on 5/17/06 revealed possible shear injuries of the splenium of the corpus callosum and medial left thalamus and possible anoxic injuries to the pulvinar regions of the thalami, left greater than the right and to portions of the putamen on both sides as well as the parietal white matter.

Brittany had an intraventricular catheter placed. She started having bowel movements and on 5/26/06 she was awake and following commands. She began trach collar trials on 5/30/06 and her left chest tube was removed on 5/31/06. She was unable to tolerate CPAP (continuous positive airway pressure) and continued to run fevers up to 103. A kidney, ureter and bladder test (KUB) showed an increase in large bowel distention. CT of the

abdomen on 6/2/06 showed resolved ileus. A lower lobe bronchus was completed and she tolerated the procedure well. Bronchoscopy cultures were growing Methicillin Resistant Staphylococcus Aureus (MRSA) and she had a PICC (peripherally inserted central catheter) line placed on 6/5/06.

Records indicate that by day 16 she was sticking out her tongue on command in OT. By June 13, 2006 she was eye opening and was deemed ready to transfer to rehabilitation. Her discharge diagnosis was fracture C5/C7 and traumatic shock.

She was transferred to Shepherd Center in Atlanta. Brittany notes, *"I thought the doctors were making me like this so I was refusing to take the medicine. I didn't believe my mom was my mom and I was very afraid which was part of why I hated Shepherd so much."*

On arrival at Shepherd it was determined that Brittany had developed increased pressure in the ventricles due to spinal fluid build up. Within two days a VP shunt was placed. It was also determined that she had multiple blood clots in her lower extremities but she had Greenfield Filters placed at St. Joseph's so this prevented further insult from the clots. In addition, she had a PICC Line in her right arm and subsequently developed clots in the right arm. She was placed on Heparin due to the clots but this forced a delay in placement of the VP shunt. Heparin was apparently stopped, the shunt placed and Heparin restarted. She currently is on Coumadin. She had been removed from all blood thinners for some time but she developed swelling in her right foot and in her groin. On examination multiple LE clots were found and she was placed back on Coumadin.

While in Shepherd she underwent PT and OT five days per week. Brittany and Jerilyn note that the head injury kept her from sitting up for approximately two months. Although they began efforts at sitting her up immediately she did not tolerate more than one to two minutes before she had to be laid back. As a result she did not get the extensive PT and OT treatment normally provided to the spinal cord injured patient until the last two months of her stay. Jerilyn notes it was only in the last month that she received a true level of PT and OT afforded most spinal cord injured patients. She had many other complications during her stay including C-difficile, MRSA, lung problems, and chronic UTI's. On discharge she went to her home and Brittany notes her family had moved two months prior to the accident and she did not recall the house when she arrived.

On arrival home arrangements were made for home health services but Jerilyn notes she provided most of Brittany's care. Insurance ruled that if she could go to the hospital for therapy she had the availability of nursing there and they would not pay for nursing in the home. Nurses came to the home twice initially only to take vitals and check her skin. Jerilyn did hire CNA's, four hours a day, five days a week with no weekend help. Jerilyn provides all other assistance.

Jerilyn notes Brittany has issues with gastro-paresis so she has to take medication (Reglan) to help her digest food.

On November 1, 2006 she began outpatient therapy at Comprehensive Rehabilitation Center of Tampa. She had PT, OT and ST for 45 minutes each on Monday, Wednesday and Friday. The PT discharge summary indicated she was seen 15 times but both Jerilyn and Brittany indicate she participated more than that.

In September 2007 she entered Tampa General Hospital to have her J-tube removed. Her discharge diagnoses were as follows:

- Probable urosepsis or pyelonephritis, rule out sepsis
- Depression
- Incomplete quadriplegia
- Severe tension headaches
- Hypersomnolence due to TBI
- Salmonella gastroenteritis

She began an inpatient program at Tampa General Rehab Center for PT and OT. Jerilyn notes she tested-out of ST at Tampa General Hospital and at her high school. She remained inpatient for six weeks and had therapy five days per week for two hours of each therapy each day. On discharge she returned as an outpatient for three months seeing OT and PT three days per week for two hours total or one hour each therapy, each day. She stopped therapy so she could return full-time to school as a senior. She wanted to have the experience of her senior year rather than give it up to the therapy. She tried to go to therapy after school but she was too exhausted to accomplish both. With the help of the Brain and Spinal Cord Injury program, an OT was hired to come to the home twice a week to provide therapy (both OT and some PT). It was not consistent throughout her senior year but with re-evaluations the Brain and Spinal Cord Injury program would re-establish the effort and the therapist would train the aides to help perform exercises with her.

In August 2008, she began back at Tampa General Rehabilitation Center on an outpatient basis for PT and OT. She attended three times per week for both therapies for 45 minutes each therapy, each time. The focus was on achieving greater independence in ADL's through learning compensatory strategies, building strength and using aides for independent function. She was trying to learn how to use a dilly stick for her bowel program, how to work with her leg bag and similar activities to be more independent when she goes off to college. She hopes to go to University of Florida but she is also considering USF. She is extremely interested in the new Spinal Cord Injury Transitional Living Program opening in January/February 2009 in Orlando. Brittany indicates she is no longer in any therapy. She continued up through December 2008.

Her urologist has been discussing removal of the suprapubic catheter and returning to intermittent catherization but she feels reluctant now that she is

on a new medication to make her urine acidic and this is helping reduce UTI's. She now feels the suprapubic catheter is working for her.

Prior Medical History:

- At age eight she broke her right arm; fully healed without limitation.
- Broke her left ankle at age fourteen; fully healed without limitation.
- No surgeries prior to this current injury.
- Childhood eczema with continuuing intermittent outbreaks.
- History of short achilles tendons.
- No history of learning disability, ADD or ADHD, but Jerilyn suspected ADD. The school never raised it as an issue and she was in an honors program.
- Brittany saw a psychologist briefly at the time of her parents divorce. (Actually she saw a couple of different psychologists for a couple of times each.).

Chief Complaint(s)

Current Disability

Disabling Problems: (By client/family history and report. No physical examination occurred).

Brittany: *"I am a C6/C7 incomplete quadriplegic. That means the spinal cord was not completely severed. Two of my vertebrae shattered but did not completely severe the cord, which is why I still have the feeling of motion but no other feeling of sensation. I also have a TBI. I obtained this because of lack of oxygen to the brain for a short amount of time but I definitely had a lack of oxygen that affected my memory, three years worth. My short term memory is also affected. I am very, very tired because of my brain injury. I have to take medication to keep me awake. Every now and then I get chronic headaches that I have to take strong pain reliever to get rid of. My spinal cord injury means I can't walk, my hands don't work, my fingers don't extend and my right arm is contracted but that is because of my brain injury. I do not have a tricep in my right arm. I cannot extend my right arm. I have no bowel or bladder function. I have a supra-pubic catheter and I get chronic urinary tract infections. I have a UTI currently and I am on medication for this. Within the last nine months I have not gone a single consecutive week without a bladder infection. I have mulitiple bacteria that get cultured out at the same time. They only treat me when I become symptomatic. I get dysreflexia, increased spasms and temperature increases. I have grown resistant to many antibiotics because I have taken them so much. My infections also play a part in my being so fatiqued. My bowel program is daily, in the mornings and takes two and a half hours. I use Magic Bullets and dilly".*

12/22/08 Update: Through therapy and adaptive equipment, she is able to perform her bowel program on a commode with assistance. She can insert the suppository and perform digital stimulation, but she needs to have her hand guided to the opening; she also requires someone to check to see that she has completed the bowel program and she needs help with cleanup.

"Because of my injury my lungs no longer function normally. I had to train myself to breathe using my diaphragm. My lateral muscles along the torso are paralyzed and so I had to develop breathing exercises from my diaphragm and I get out of breath very quick. If I talk a lot, oxygen does not get to my brain so I get very dizzy."

Jerilyn: *"She also has gastro-paresis which is a partial paralysis of her stomach which results in problems digesting her meals. It takes her about four times longer to digest her food and she takes Reglan to assist. This can also cause her to become constipated very easily and this causes her other health issues. She has bowel incontinence about once per month. This has been a more recent problem. She sees her urologist tomorrow to take a test to measure her bladder capacity and to determine her potential to self-catheterize. When her suprapubic tube gets plugged she will become incontinent and we find we have to change her tube every two weeks because she has so much sediment. She sustained a broken nose in the accident and now has sinus issues for which she is on medication. She had no such issues prior to the accident."*

They are taking prothombin times for Coumadin levels once per month.

She did have somewhat of an anoxic injury and she also had a moderate level of fluid in the brain (for which a VP shunt was inserted). She did have a moderate head injury per Jerilyn. She does have some short-term memory issues. I suggest a neuropsychological evaluation to determine protocols for best learning methods.

Medical records indicate TBI with probable hypoxic/ischemic component with loss of consciousness, hydrocephalus requiring VP shunt, serial CT scans showing post surgical mild stable hydrocephalus, and EEG findings of intermittent slowing, generalized, bifrontal maximal. See Spinal Cord questions.

Spinal Cord Injury

Level of Lesion: C/6-C7.

Complete/Incomplete Lesion (Sensory & Motor): C5 ASIA- A at time of discharge from Shepherd according to neuropsychologist report in Shepherd discharge records. Subsequent records including assessment at Tampa General Rehab Center indicate she is now functioning as a C6/C7 incomplete

or ASIA A/B. Functionally she is a complete motor, incomplete sensory lesion.

Pain above or below level of lesion: Her right arm lacks a tricep and she describes pain that is intermittent and present only during PT when the arm is stretched. She also notes she has tendonitis in the right shoulder. This causes intermittent pain in the right shoulder only when she works her right arm.

"My headaches were bad in the hospital but are better now. I get headaches".

Pattern of Paralysis (sensation loss): Altered sensation begins just above her breast and downward. She indicates she has a *"pins and needles sensation"* from just above the breast to her feet. It is mild but constantly present. She feels a constant pins and needles sensation over her entire body. She cannot feel touch but she can feel motion so if her mother reaches over and moves or shakes her leg she is aware of the motion of her leg even when her eyes are closed. She has lost proprioception in that she knows her leg is moving but not where it is in space in relation to the rest of her body.

Bowel/Bladder

Type of Bowel Program: "*My bowel program is daily, in the mornings and takes two and a half hours. I use Magic Bullets and dilly".* From start to clean-up she averages two and a half hours. A great deal is done for her but if she learns to be more independent and tries to take on more of this responsibility, this time could actually increase due to her limitation in function and the time she requires to complete each task.

Independent: No

Type of Bladder Program: Suprapubic catherter with tube change every two weeks due to sediment build up. After the second evaluation (10/17/08) it was learned that her new medication to make the urine more acidic has helped reduce sedimentation and the catheter is now changed once per month.

Independent: No.

Urine Check: Only when she has UTI symptoms, urine color changes or odor changes.

Urinary Tract Infections: She had not had a urinary tract infection in the past three weeks before the second evaluation (10/17/08). The new medication to make her urine more acidic has helped. Before this she had UTI's almost constantly.

Hospitalizations for UTI: She has not been hospitalized for UTI's but she has been on constant antibiotics and had to change the suprapubic catheter every two weeks due to blockage from sedimentation secondary to infection. As of 10/17/08, they are back to changing the catheter one time per month as appropriate and they rarely were ever able to do that. They are changing the leg bags every other day to help keep things sterile.

Sexual Issues

Sexual Education Received: She went through a group session with a counselor but she, according to mother, was not very alert at the time and she is telling me she does not recall. She has video tapes on bowel programming, dysreflexia, catheter care and other procedural issues and one on sexual education. When she is ready she needs to address this again.

Sexual Counseling Received: She needs to address this when she feels the need.

Sexual Aids Used: N/A

Turning/Transfers

She is learning how to turn but right now she is placed on her left side and she stays on her left side through the night. She is tolerating this without a skin problem although she notes she had one *"skin issue"* when she was laying on the cap of her catheter. She had to lay on her back for a couple of weeks to recover from this. Mom notes, *"we realize she has younger skin and it is likely as she grows older that she will require more turning."*

Independent: She is able to turn to change positions in bed only when using the "bed ladder" strap to assist her.

Nursing/Attendant Needs

Requires 24/7 care and because she is not independent in catheterizing and bowel she will need help in both areas. She is working hard to learn independence in these areas but even if she achieves this, age and disability will eventually return her to dependence.

Transitional Living Program

Her goal and hope is to attend the new transitional living program opening in Orlando.

History of Complications

Dysreflexia: Daily - two to three times per day due to the UTI's primarily but also associated with her bowel program. Symptoms include blotchiness on her skin, feeling hot and elevated body temperature, elevated blood pressure, reduced heart rate. When dysreflexia occurs, she stops whatever she is doing, sits up and trys to determine the underlying cause.

Spasms: Brittany gets moderate to severe spasms depending on the severity of UTI's and underlying type of infection. If someone touches her during a spasm they increase.

Decubiti (recent/past): Limited to a few red spots on her feet and back but not full skin break down.

Thrombophlebitis: She has had multiple clots and she is on Coumadin therapy with monthly Prothombin times taken.

Respiratory Infections: No.

Overheating: Yes.

Chilling: Yes.

Miscellaneous Information

Psychosocial Adaptation to Disability: Fair to good.

Architectural Renovations Completed: Bathroom, ramping to front. Only one way to get in and out of her parent's current house.

Auto Insurance/Driving Evaluation: She has not been evaluated to drive yet, although she is interested in pursuing this.

Adaptations to Auto/Van: Dodge Van - 2006. Wheelchair lift with wheelchair lock down system on the passenger side. They are looking into getting it driver modified.

FES/Biofeedback (Neuromuscular Re-education): No.

Head Injury Sequela

Cognitive

Retrograde Amnesia: Brittany indicates she has lost her perception of time so it is very difficult for her to determine when things happened in her memory in relation to the time of the accident. She recalls being in school prior to the accident but she cannot state that she recalls the year of school

prior to the accident. In interview she vaguely recalls being promoted to the varsity softball team only in that she has a vague recall of sitting on the varsity bus going to a game. By interview she seems to have lost almost four to five months of memory.

Post-Traumatic Amnesia: PTA continued right through the last months at Shepherd where she still needed to be reminded of the accident and what occurred. She would begin to recognize people but remained confused, disoriented and showed memory problems. With an intact trach she was not speaking so part of this made it difficult to assess her function. She then went through pressure build up in the brain with accompanying side effects and this made her worse. Brittany did not truly believe Jerilyn was her mother until she got home from Shepherd.

Attention & Concentration: Brittany feels she had ADD before and she believes she is better able to focus now because her current medication helps her. Jerilyn notes she was very distracted before with softball, socializing and after school activities. Post injury, she was just focused on school with no outside distractions so this change, plus the medications, results in her having done better overall. Nevertheless, Jerilyn notes memory is worse and she would never be able to deal with the distractions and activity levels she dealt with pre-morbidly.

Abstract Reasoning & Conceptualization: Brittany feels learning and retaining new information is much more difficult and conceptual learning and learning through lecture is much more difficult. She has to work much harder to learn and retain information and she has to go over material multiple times. Jerilyn agrees. Both agree that she can get ready for a test and do well but they are concerned that a retest weeks later may not show retention over time.

Immediate Recall: Fair to good.

Delayed Memory: This is the area of greatest deficit.

Remote Memory: Intact.

Problem Solving: Both feel she is not as good at finding solutions to everyday problems but Jerilyn notes when it means something to her she will resolve problems. She is working now on calling in her own medications, scheduling her own therapies and working out scheduling problems.

Decision Making: Brittany feels she avoids making decisions and does not feel confident about doing research and organizing information.

Speed of Thought Processing: Just as fast when having a normal conversation but when she is more fatigued she slows down considerably. One of her main problems is severe fatigue secondary to the hypoxic brain injury.

Thought Organization & Planning: Finds it is hard to orgainize and plan because she has a lot of difficulty with time reference. She finds her perception of time is poor and it makes it difficult for her to get a clear reference on chronological order.

Judgement: Brittany feels she is aware of hazards and Jerilyn feels she has a good sense of when there are dangerous people in her environment. She is a relatively good judge of character.

Auditory Discrimination: Does not feel she is more easily distracted and Jerilyn agrees noting it is likely the medicaton.

Auditory Retention: Visual cues support memory more effectively for her.

Visual Discrimination: Does not feel she is more easily distracted and Jerilyn agrees noting it is likely the medicaton.

Visual Retention: Visual cues support memory more effectively for her.

Insight (awareness of problems): Relatively good.

Expressive Language: Good, but she does complain of some word retrieval problems. Also complains of intermittent stuttering which she indicates never occurred pre-morbidly.

Receptive Language: Good.

Perseveration: Not present.

Confabulation: Not present.

Ability to Engage in Purposeful Activity: Good within the context of her SCI limitations.

Behavioral/Psychological

Disinhibition (loss of inhibitory control): Not present.

Appropriateness of Response to Environment: Good.

Socially Inappropriate Behavior: No

Social Skills Deficits: No.

Impulsivity: No.

Poor Self-initiation: She has a problem with self-initiation of behavior. She likely has some frontal lobe damage which causes this. (see neuropsychological testing from Shepherd and the follow-up testing which Jerilyn is forwarding).

Impaired Capacity for Self-control/Self-regulation: Requires 24/7 care.

Social Dependency: She only needs help get this initiated. She will not need life long assistance in this area.

Emotional/Personality Changes: Jerilyn, *"she is sadder sometimes but she is getting herself out of them. She allows herself to cry and then moves on."* Brittany, *"Thank God for anti-depressants."*

Personality Regression: No.

Behavioral Rigidity or Inflexibility: Brittany, *"I do not like to plan things because I get very discouraged when they do not turn out as planned so I tend to just go with the flow and see how things turn out."*

Denial: No.

Reduced Self-esteem: Brittany, *"Yes, this has very much affected my self-esteem and self-worth. I am very self-conscious about my catheter and my leg bag. I don't like having people know that someone else has to do my bowel program. I don't like to wear shorts where other people can see my leg bag or catheter tube."* Brittany's perception is she is less outgoing and less likely to intiate conversations but Jerilyn feels she does do this if she is among friends.

Exaggeration of Previous Negative Personality Traits: No.

Interpersonal Relationship Problems: No.

Problems with Family Relationships: No.

Issues with Lifestyle: Loss of independence.

Degree of Acceptance: Fair to good but counseling for adjustment is still very much needed. *"I am still very much self conscious if anyone mentions my disability".*

Motor/Physical

Psychomotor Speed: She is too impaired by SCI too be able to assess psychomotor deficits.

Psychomotor Coordination: She is too impaired by SCI too be able to assess psychomotor deficits.

Hemiparesis: She is too impaired by SCI too be able to assess psychomotor deficits.

Gait Changes: She is too impaired by SCI too be able to assess psychomotor deficits.

Bowel/Bladder: Impaired by SCI.

Sense of Smell/Taste: Brittany, *"my taste changed dramatically. Nothing tastes the same. Many things that smelled bad before like bowel movements and gasoline now all smell the same to me."*

Anticipated Treatments: Urology tests scheduled for the day after the initial evaluation. Brittany is scheduled to go to Shepherd Center for a week February 19, 2009 for an update evaluation. *"We would like to extend that to be able to get additional PT but we will probably be going back to Tampa General Rehab for this".*

Brittany*: "I am taking a year off from school but I very much want to use the time for PT and a program to learn to be more independent so I can be succesful in college and more independent."* (We discussed the new Spinal Cord Injury independent living program opening in Orlando and she is very interested in learning more.

Addendum: Brittany and her mother did, in fact, attend the meeting in Orlando on November 12, 2008 that introduced the Transitional Living Program. She was impressed and very excited about attending this program.

Psychosocial Issues

Patient: Brittany admits to depression, anxiety and tension along with frustration. (See Testing).

Family, Emotional Impact on Spouse/Children: Jerilyn indicates: *"Sometimes I am doing well until someone asks me how I am doing. I do get depressed and I get tired emotionally and physically. I still provide a lot of her care. Now I have someone come in 90 to 120 minutes a day in the mornings five days a week. I currently do not have anyone in the afternoon. There is no one on the weekends. I eventually want to get someone for the evenings to help shower her and put her to bed."*

Physical Limitations

Loss of Tactile Sensation: From just above the nipple line down.

Reach: Severely restricted range of motion.

Lift: Severely restricted; not functional.

Prehensile/Grip: Severely restricted; not functional.

Sitting: Brittany can sit in her chair for about 12 hours with appropriate weight shifts every 30 minutes.

Standing: She does have a stander. She tries to stand 3 X / week for 20 minutes, or whatever is tolerated at the time. She does describe that it takes a long time to get her transferred into the stander. (It is a *"process").*

Walking/Gait: Not functional.

Bend/Twist: She is able to bend to touch her leg bag. Her balance is improving.

Kneel: Not functional.

Stoop/Squat: Not functional.

Climb: Not functional.

Balance: Good for her level of injury. She does have a seat belt for the wheelchair, but she does not use it.

Breathing: *"I get out of breath very quickly, especially when talking"*. This is because of the lung injury. Her status has remained stable. She has never had problems with her lungs other than getting out of breath, no pneumonia or respiratory infections.

Headaches: Headaches occur on average 1-2 X / month. These are severe enough that she must take medication (Fioricet) and lie down for relief.

Vision: She wears contacts or glasses.

Hearing: Intact conversationally.

Driving: She has not yet been evaluated to drive (C5-6-7).

Physical Stamina (average daily need for rest or reclining): If she has a UTI, she will fatigue easily. She takes medication to enable her to stay up. Usually on the weekends she is in bed a lot due to the demands of the week. During the week she is busy with therapy and school and tends to stay up.

Environmental Influences

Problems on exposure to:

Air Conditioning: Yes
Heat: Yes
Cold: Yes
Wet/Humid: No
Sudden Changes: No
Fumes: Yes
Noise: Yes, tends to be distracted.
Stress: Not necessarily; Jerilyn indicates Brittany is much less stressed than before, more mellow. She can be very opinionated about what she wants, but she can be very indecisive about making decisions regarding stressful matters.
Other: Brittany indicates that all bad smells tend to smell the same to her. She is unable to assess the type of odor she is smelling. Her sense of taste has changed as well. She tends to like spicy and sweet foods compared to before the injury.

Present Medical Treatment

Doctors	Specialty	Phone	Fax	Frequency	Last Seen
LeeAnn Turin MD	Family Practice	XXX-XXX-XXXX	XXX-XXX-XXXX		

Tampa, FL. Dr. Turin is a close friend of the family. She sees her about 1-2 X / month for Coumadin testing. She only saw her very rarely before the SCI (once per year for physicals).

William Brown, MD	Urology	XXX-XXX-XXXX	XXX-XXX-XXXX		8/29/08

Tampa, FL. (Just started seeing this physician. She had only seen him twice at the time of this evaluation).

Dr. Gilad 303 789-8000
Shepherd Center - inpatient June through October 2005. They do plan to go back to Shepherd in February 2009, under Dr. Gilad's care for a re-evaluation. Jerilyn evaluated both Shepherd and University of Alabama's program for initial rehab and she chose Shepherd. They will continue follow-up with Shepherd.

Dr. Kidd PM & R 941 921-8600 May 2007
Tampa, FL- Tampa General Rehab Center. No longer seeing this physician. Dr. Kidd is the inpatient physician for Tampa General Rehab Center. They do not follow with this physician as he only works with the inpatient population. Brittany needs to have a physiatrist following her.

(They did see a physiatrist that did out-patient follow-up, but they were not happy with him).

Therapist	Therapy	Phone	Facility	Frequency
Oliver (Tampa, FL)	PT & OT	XXX-XXX-XXXX	Tampa General Rehab Center	

			Tampa, FL	
Bree Oro	ST	XXX-XXX-XXXX	Tampa General Hospital	Brittany has been discharged from ST.

Additional Therapies/Notes:
She was discharged from ST while she was at the hospital. She was tested "out" of ST when she started her Junior year of high school.

Medication	**Strength**	**Tablets Day**	**Purpose**	**Rx By:**
Reglan	5 mg	4/day	Gastro-paresis	Turin
Adderall XR	30 mg & 20 mg	1 each per day	Awake-Alert	Turin
Tizanidize	4 mg	1/night	Spasms	Turin
Methen-amine (Hiprex)	1 gm	2/day	UTIs	Brown
Nexium	40 mg	1/day	Acid Reflux	Turin
Budeprion XL (Wellbutrin)	300 mg	1/day	Depression	Turin
Fioricet		1-2 PRN, Averages 1-2 tablets per month	Headache pain	Turin
Repliva		1/day	Iron Supp.	Turin
Magnesium	250 mg	2/day		Turin
Oxytrol	3.9 mg.	1 patch, twice per week	Bladder Spasms	Turin
Xyzal	5 mg	1/day	Sinus (Broken nose at time of injury)	Turin
Coumadin	7.5 mg	1/day	Blood Thinner (prone to forming blood clots)	Turin
Zoloft	100 mg	1/day (Pre injury she took 30 mg/day)	Depression	Turin
Kenalog Spray		PRN when she has reddened or irritated skin (usually will purchase 1 cannister per year).	Skin	Gilad

Over-the-Counter Medication(s):

- Nystatin Topical Powder, Dr. Gilad (1 X / year replace container)
- Magic Bullet suppository 1/day

Drugstore and Phone Number:
Publix: XXX-XXX-XXXX

Assistive Devices:
- Manual W/C, 10/05, $800, Poor Condition (This was a used chair). Looking to get a lighter chair, maybe Titanium, and perhaps with a reclining back on the chair).
- Power W/C, 10/05 $24,078.48, Quantum 600, Good Condition.
- Specialty Cushion - Gel (1) $700, 10/05 (Shepherd - specialized cushion).
- Shower Wheelchair, 10/05 (Expensive model).
- Power Bed, 10/05, rental - Apria (Hospital size).
- Specialty Mattress needs to be replaced. (Shepherd sent her one to use, but it is "caving in").
- Easy Stand - Evolv 3/28/08, $4,234.
- Elbow Brace 5/13/08, $754.38, Mackie Ortho Innovations.
- Dodge Van 12/06, $60,000 approximately. Ride-A-Way Conversion. This was purchased new, fold up lift; rear A/C, tie down system in front. Not adapted for her to drive.
- Sliding board (2 - one for the car and one for transfers).
- Bedside table (purchased).

Equipment Needs:
- Power Lift.
- Portable Ramps.
- Temperature guard.
- Automatic door opener and intercom system.
- Hoyer Lift and Lift Track System.
- ECU.

Supplies:
- Surgilube 4 oz. 1-2/month $4.80 each
- Gloves: Non sterile 4 pair per day
- Sterile water - purchase one case that lasts 6 months (likely 48 bottles per case)
- Night Bags (Replaced 1X/week)
- Extension Tubing (Replaced with the night bag); Leg Bags replaced every other day (RUSCH)
- Leg Bag tubing, replaced every other day.
- Insertion Tray (Bard) - gloves, lubricant, iodine wipes, underpad, syringe.
- Irrigation Tray (has just the canister and syringe)
- Pullups Medline "Dignity"- one per day; Underpads -1/day (Washable)
- Chux Pads - use 4/day; 1 pack would last one week.
- Cleanser for the skin - body wash - no rinse bodywash.
- Skin Cream - A & D ointment, 1 large tub per 2 months.

- Bed Ladder.
- Leg bands for pulling her legs up.
- Forks/Spoons - handgrip adapted; Specialty Plates.
- Dycem Rolls.
- Medical Supplies - bandages, antibiotic creams.
- Extra garbage bags.
- Wipes - baby wipes 1 container every 3-4 days (bowel program is done every day).
- Suppository Insertion and Digital Stimulator ($80).

Medical Summary

BRITTANY NEWBERRY
D.O.B.: 2/27/90
D.O.O.: 5/6/06
Date of Medical Summary: 8/19/08

Brittany is an 18-year-old Caucasian female who sustained a spinal cord injury at level C5-7 level as a result of a motor vehicle accident.

HILLSBOROUGH COUNTY FIRE DEPARTMENT: 5/6/06
Responded to scene of MVA. Upon arrival, Brittany was found in passenger side of SUV unconsciousness (Glasgow Coma Scale of 6) with agonal respiration. Extrication was required due to roof intrusion and crumpled passenger door.

On assessment post extrication, Brittany was noted to have facial contusions, swelling, a head laceration and bleeding from the nose and mouth. She was intubated. She had bilateral rales indicating possible left and right hemothorax. Abdomen was distended, and was becoming very rigid. There were no deformities of extremities. Care was turned over to Life Flight.

LIFE FLIGHT: 5/6/06
Brittany was unconscious upon Life Flight arrival. She was intubated by ground crew and had a Glasgow Coma Scale of 3. She was noted to move both arms and resisted when crew tried to restrain her arms. She was flown to St. Joseph's Hospital. Initial impression was unspecified intracranial hemorrhage without open intracranial wound and injury to her lung.

ST. JOSEPH'S HOSPITAL: 5/6/06 – 6/14/06
Arrived via air transport. Brittany was apparently purposeful in the field. She was extremely hypotensive on arrival. CT of the abdomen showed no evidence of intra-abdominal bleed. Chest X-ray showed severe contusion of the right lung as well as a pneumothorax. She had a chest tube placed prior to CT. CT of the head and neck showed evidence of a C-spine fracture at C6-7. Examiner's felt her hypotension was due to spinal shock. She remained

slightly purposeful but never moved her legs. She was considered quadriplegic, incomplete, in the emergency room. Steroid protocol was initiated.

On 5/9/06 she underwent placement of a halo, posterior cervical C6-7 laminectomy, C5 through C7 lateral mass plating with reduction of jumped facets, C6-7 anterior cervical diskectomy with partial C6 corpectomy. Allograft was used in a ventral dural decompression and placement of an Atlantis plate was completed. She was admitted to the ICU with a diagnosis of C6 quadriplegia and right lung contusion. She was started on total parenteral nutrition and had a jejunostomy tube placed. On 5/12/06, she was noted to be flexing and withdrawing her UE's. She also had a psychology consult on 5/16/06. She ran very high fevers throughout her hospitalization and was started on IV antibiotics. She had a tracheostomy on 5/18/06.

MRI of the brain on 5/17/06 revealed possible shear injuries of the splenium of the corpus callosum and medical (sic-medial?) left thalamus and possible anoxic injuries to the pulvinar regions of the thalami, left greater than the right and to portions of the putamen on both sides as well as the parietal white matter. Brittany had an intraventricular catheter placed. On 5/26/06 she was awake and following commands. She began trach collar trials on 5/30/06 and her left chest tube was removed on 5/31/06. She was unable to tolerate CPAP (continuous positive airway pressure) and continued to run fevers. A kidney, ureter and bladder test (KUB) showed an increase in large bowel distention. CT of the abdomen on 6/2/06 showed her ileus had resolved. Bronchoscopy cultures were growing Methicillin Resistant Staphylococcus Aureus (MRSA) and she had a PICC (peripherally inserted central catheter) line placed on 6/5/06.

Brittany had a PT evaluation on 5/10/06. She was in a comatose state and not following commands. Progress note of 5/31/06 indicated her eyes were open and she could follow simple commands. Last progress note of 6/13/06 revealed that she did not tolerate therapy due to pain.

OT note dated 5/22/06 indicated she showed her tongue on command but had no purposeful movements in her upper extremities. She could visually track and make eye contact. Last note dated 6/13/06 indicated she refused UE exercises and was maximum assist to dip toothbrush into water and brush her teeth. Dependency in basic oral care continued. ST evaluated her on 6/2/06 for a Passy-Muir Speaking Valve, which she did not tolerate.

On 6/13/06, her temperature was down to 100, she was opening her eyes spontaneously and she was transferred to rehabilitation program. Discharge diagnoses:

- Fracture C5-C7
- Traumatic shock

COMPREHENSIVE REHABILITATION CENTER OF TAMPA: 11/1/06 – 6/7/07

Comprehensive Rehabilitation Center of Tampa: PT 11/1/06 – 6/7/07
Discharge Summary indicated Brittany had been seen 15 times. At time of discharge, she was able to sit on the edge of the bed, supported, for 5 minutes. She was able to roll from side lying to supine but needed assistance to go from supine to side lying. She needed minimum to maximum assist to go from supine to a sitting position. She was still having major deficits in her right elbow ROM lacking 45 degrees extension. She was progressively improving, however, she felt she would benefit from inpatient rehabilitation at Comprehensive Rehabilitation Center of Tampa thus she was discharged.

Comprehensive Rehabilitation Center of Tampa: OT 11/1/06 – 3/5/07
Records mostly illegible. Discharge summary indicated Brittany was able to feed herself with adaptive equipment. She used an adaptive tub and whirlpool for bathing and she had an adaptive walker. She went to school for 1-2 classes with an aide. OT recommended numerous amount of adaptive equipment but list is illegible. An adaptive spoon, plate, and cup were recommended. She was discharged to Tampa General Rehab Center for inpatient therapy.

Comprehensive Rehabilitation Center of Tampa: 11/1/06 – 2/22/07
Discharge Summary indicated Brittany's cognitive linguistic skills were within functional limits. She had mild dysphagia pertaining to voice quality. She would need a voice amplifier as needed. She received ST services 4X/week.

TAMPA GENERAL HOSPITAL: 11/14/06; 9/17/07 – 9/20/07

Tampa General Hospital: 11/14/06
Brittany underwent removal of her tunneled jejunal feeding tube. Head CT revealed no evidence of intra-axial or extra-axial hemorrhages or mass. Cerebral spinal fluid shunts in place.

Tampa General Hospital: 9/17/07 – 9/20/07
Stool cultures grew Salmonella Group D and urine cultures grew Proteus mirabilis. Brittany improved with antibiotics over the next few days. She had PT daily to help maintain flexibility and strength. Her bladder spasms were treated aggressively. She improved relatively quickly and was discharged home. Discharge Diagnoses:

- Probable urosepsis or pyelonephritis, rule out sepsis
- Depression
- Incomplete quadriplegia
- Severe tension headaches
- Hypersomnolence due to TBI
- Salmonella gastroenteritis

WESTLAND PLASTIC SURGERY CENTER: 1/22/07

Brittany's trach was removed in July at Shepherd Center in Atlanta. She still had a raspy and quiet voice. She was currently in ST at Tampa General Rehab Center. A nasal endoscopy was performed, which revealed no masses and vocal cords mobile bilaterally. Impression:

- Hoarseness – etiology appeared multifactorial
- Gastroesophageal Reflux Disease – She had evidence of posterior glottic erythema and edema consistent with laryngopharyngeal reflux. (Nasal endoscopy) Examiner recommended an anti-reflux diet and proton pump therapy
- Allergic Rhinitis – Treat with nasal steroids and anti-histamine

TAMPA GENERAL REHAB CENTER: 5/18/07; 6/8/07 (Incomplete Records)

Tampa General Rehab Center: 5/18/07 (Incomplete Records)
Brittany was participating in her therapy program and making good progress. She had bladder management via suprapubic catheter and her bowel program was stimulation when needed. She had Botox injections to her elbow flexors to help improve ROM. She was considering switching from the suprapubic catheter to intermittent catheterization, however, this would likely need medication management and a cystometrogram. Zanaflex was increased and analgesic cortisone injections to the tendon sheath were discussed due to tenderness over the right bicipital tendon.

Tampa General Rehab Center: 6/8/07
Brittany had come off the Zanaflex and noticed increased twitching. She restarted and her twitching decreased. The tenderness over the right bicipital tendon had improved. She was not sleeping well during the night. Reglan was decreased to 3X/day and her Zoloft was very helpful in treating her depression. She was to continue with PT and OT.

UROLOGY ASSOCIATES OF AMERICA: 8/29/07
Brittany was seen for evaluation of recurrent urinary tract infections. She had a suprapubic catheter due to her spinal cord injury. Assessment: Neurogenic Bladder. Macrobid, renal ultrasound and cystoscopy were recommended.

Records Reviewed:

Life Flight: 5/6/06
St. Joseph's Hospital: 5/6/06 – 6/14/06
Urology Associates of America: 8/29/07
Tampa General Rehab Center: 5/18/07; 6/8/07
Medical Bills
Westland Plastic Surgery Center: 1/22/07
Hillsborough County Fire Department: 5/6/06
Tampa General Hospital: 11/14/06; 9/17/07 – 9/20/07
Blue Cross/Blue Shield Claim Records

ADDENDUM: 8/27/08

SHEPHERD CENTER: 6/14/06 – 10/23/06
(OT Discharge Summary) Brittany had some limitation in ROM in her RUE, and was currently using a Dynasplint to increase functional use of her RUE. She received adaptive equipment to assist with writing, computer accessibility, introduction to Dragon Naturally Speaking voice software, grooming, self-feeding, and assisting with stirring, and scooping. She would need encouragement to assist with RUE as her elbow extension allowed.

Brittany and her family received information with regards to modified vehicles as a dependent passenger. She received a Quantum 600 power wheelchair with Motion seating system for tilt functions. She was independent with driving (wheelchair) on smooth terrain, but required stand-by assistance for crowded areas, obstacles and rough terrain. She required reminders for doing 20-30 minute weight shifts, by using the switch to access tilt function. She wore a corset, which provided good support for trunk stability while up in her wheelchair.

(ST Discharge Summary) Brittany had normal hearing bilaterally. Her oral motor skills were functional for speech production and swallowing. She was vocalizing and her speech intelligibility was within normal limits. She had a somewhat breathy vocal quality, which resulted in decreased loudness of speech. She was able to communicate without significant difficulty.

At discharge, Brittany scored at the 6.1 grade level on the Nelson-Danny Reading Test-Comprehension subtests (She had improved since admission). On admission she had scored a 9.4 grade level for vocabulary (not re-assessed prior to discharge). She had difficulty with both literal and interpretive questions and required cues to review the information prior to answering the question. She also required extra time to complete reading tasks. Comprehension deficits appeared to be due to decreased attention, memory, and speed of processing skills. When Brittany was feeling well, she benefited from reading a passage more than once to assist with comprehending/retaining more details. She required additional time to complete reading tasks during testing and during therapy. She could communicate basic needs and simple conversation independently.

Brittany was exhibiting functional communication for basic conversation as well as expressing her wants and needs. Expressive language was re-assessed during an evaluation on 9/1/06 and since her scores were within normal range, she was not tested again prior to discharge. It was possible that she may have difficulty with thought organization of complex, abstract ideas as she returned to school. Her writing skills could not be assessed due to motor deficits.

Brittany could sustain attention for 30-60 minutes with no redirection. She demonstrated moderate deficits with complex sustained attention during structured tasks. Informal observation on the Attention Process Training Test (APT) showed moderate deficits on the complex sustained, selective and alternating attention subtests. Other observations revealed decreased attention to detail and difficulty ignoring distractions. She was consistently oriented to person, time, place and situation.

The Rapid Memory Test was used to assess acquisition and recall. Her ability to encode and learn new information was judged to be mildly impaired. She continued to have significant difficulty with recall of incidental events and information. She was able to use a planner in the hospital to remember her schedule and it was recommended that she have assistance after discharge with implementing a new planner designed for her school and home setting.

Brittany demonstrated significant improved functioning with structured problem solving tasks during formal testing. On the Woodcock-Johnson III, she scored in the average range for Concept Formation and Analysis-Synthesis. It was suspected that Brittany would have difficulty and need assistance with problem solving, planning, and organization for less structured situations. She had made significant improvements with cognitive-linguistic functioning since admission.

Brittany was discharged home on 10/23/06. She was to receive ST outpatient as well as in her school.

(PT) Initial evaluation revealed that Brittany was in a HALO and was ventilator dependent. As on 6/15/06, she was on bedrest secondary to DVT.

Discharge Summary of 10/17/06 revealed that Brittany was dependent in all bed mobility. She was able to tolerate sitting in her wheelchair all day and had a Jay 2 Deep Contour cushion. Brittany was dependent in all transfers. She no longer complained of headaches but still had right shoulder and neck pain. She wore a right elbow splint at night that seemed to increase her right shoulder pain. Her family was aware of the need to carefully position her RUE at night to protect her shoulder. She was to continue manual therapy for her neck and right shoulder as an outpatient.

(Neuropsychological Re-evaluation/ Katchen, Lance: Neuropsychologist 10/20/06): Brittany was a 16 year old, high school junior who sustained multi-trauma including C5 ASIA A SCI and a TBI with probable hypoxic/ischemic component with loss of consciousness, hydrocephalus requiring VP shunt, serial CT scans showing post surgical mild stable hydrocephalus, and EEG findings of intermittent slowing, generalized, bifrontal maximal.

During the course of Brittany's rehabilitation stay, she exhibited a pattern of general improvement of her cognitive functioning and had reached the

average range on measures of auditory working memory, verbal reasoning, visual reasoning, categorical reasoning, reading, spelling and math skills; however, she continued to have moderate to severe slowing of her processing speed, moderate visual memory impairments and moderate to severe verbal memory impairments. Her combined tetraplegia, physical symptoms, cognitive impairments and evolving emotional distress significantly impacted her daily functioning and would all need to be addressed in a comprehensive home, school and community reintegration program.

Neuropsychological re-evaluation and follow up recommended in 6 months for a re-evaluation.

Records Reviewed:

Shepherd Center: 6/14/06 – 10/23/06

ADDENDUM: 11/12/08

LANTY, DEVON PH.D.: 5/6/08; 5/13/08
Neuropsychological Report. Brittany was applying for vocational assistance in order to pursue college. Interests included teching. She had already applied to the University of Florida.

Brittany commented that the day of this evaluation was her anniversary date. However, specific memory for the event remained poor. There were evidences for significant retrograde and anterograde amnesia. Memory for post-events was vague and elusive. She reported having "tingling" and a "needle-feeling" from the chest down and into her hands. She continued to evidence a myriad of symptoms related to head trauma and spinal cord injury. Her fine motor movement was severely compromised and she evidenced tetraplegia. She had told the examiner she initially believed she was 14 years old. She was unable to recall two to three years of her life. Over time though, memories have re-emerged.

Brittany sensed a "tingling" feeling and was unable to ambulate. She required assistance for basic daily activities, e.g., dressing and eating. She lived with her mother and stepfather. Her father was a fireman and lived in Colorado. Her mother was a sales representative for Merk. Brittany has a stepbrother, half-brother and biological brother, all of whom maintain close contact and rapport. She was currently a senior at Gaither High School. Although she did not have to repeat a grade due to her injuries, she was now working on a "passbook" to make up for previous classes. She anticipated graduating from high school this year.

At the time of her accident, Brittany had been dating. Over time, though, the couple separated. Socially, she preferred associating with teachers and adults. She worked in a restaurant as a server at the age of 15. She told the examiner she was accepted and will move to Gainesville after she graduated

from Gaither High School. Subsequent to her injuries, her health had deteriorated. She reported frequent urinary tract infections due to a compromised immune system. At the time of evaluation, she was prescribed and taking Adderall, Zoloft and Wellbutrin. In addition, she took medication for her stomach.

Procedures Administered:

- Clinical Interview
- History and Observations
- Mental Status Evaluation
- Review of Preliminary Assessment
- Review of Neuropsychological Report by Katchen, Lance, Neuropsychologist
- Consent Form, Release Form, Notice Form
- Wechsler Adult Intelligence Scale-3rd Edition
- Wechsler Memory Scale-3rd Edition
- Rey Auditory Verbal Learning Test
- Seashore Rhythm Test
- Hooper Visual Organization Test
- Wide Range Achievement Test- 4th Edition (Word Reading Subtest)
- Peabody Picture Vocabulary Test- 4th Edition
- Controlled Oral Word Fluency Exam
- Booklet Category Test
- Stroop Interference Procedure
- Minnesota Multiphasic Personality Inventory-2 (Clinical Scales)
- Beck Depression Inventory-II

Wechsler Adult Intelligence Scale-3rd Edition Scores:

Verbal Subtests	Scaled Scores
Vocabulary	10
Similarities	11
Arithmetic	11
Digit Span	10
Information	8
Comprehension	9
Performance Subtests	
Picture Completion	9
Matrix Reasoning	11

Verbal IQ: 99 Percentile Rank: 45

Wechsler Memory Scale-3rd Edition Scores:

Tests	Index Score	Percentile
Auditory Immediate	56	0.2
Visual Immediate	71	3
Immediate Memory	55	0.1
Auditory Delayed	49	<0.1
Visual Delayed	65	1
Auditory Recognition	70	2
General Memory	52	0.1

The results of this evaluation revealed several concerns regarding neuropsychological and psychological factors that would interfere to varying degrees with academic progress and future employment. Brittany revealed marked deficits with regard to new learning. This was demonstrated on the Wechsler Memory Scale-3rd edition as well as Rey Auditory Verbal Learning Test. All scores from these examinations revealed significant and global deficiencies with regard to verbal and nonverbal learning. Although visual-spatial skills were somewhat better represented, her overall performance revealed the extent to which she was unable to effectively encode, consolidate, and retrieve information. While she was somewhat aware of these deficits, her average premorbid abilities helped to compensate.

In particular, Brittany performed quite well on the Wechsler Adult Intelligence Scale-3rd Edition. All subtests administered fell within the Average Range. She performed quite well on tests of verbal processing as well as nonverbal problem solving. Factors associated with premorbid function fell within the Low Average Range to Average Range. Given these findings and parameters, her marked difficulties on measures of new learning represent acquired deficits rather than reflections of developmental deficits. She clearly had difficulty acquiring novel information irrespective of presentation. Her ability to maintain attention and concentration and solve non-verbal problems was quite good. These were excellent prognostic signs with regard to her ability to adjust and adapt to novel situations, while remaining flexible and amenable.

Brittany tried to remain optimistic and positive. On the Beck Inventory-II, her score of 14 placed her within the Mild Range. Clearly, there was evidence for depression, with particular emphasis given to loss of interest and changes of physical function. This was consistent with her profile on the MMPI-2, revealing the extent to which she was depressed and anxious, while particularly preoccupied with her physical health. She has had profound changes of physical functioning and psychological identity. Despite the marked losses, her capacity to remain optimistic appeared unlimited.

Brittany's ability to project a favorable and positive image may abruptly change after graduating high school. In the absence of a well-structured, known and supportive environment, she would be challenged from many perspectives. It would be the extent to which she could remain flexible and

accommodating that would determine her level of vocational success. She was certainly optimistic at this time with regard to pursuing attendance at the University of Florida. Examiner was concerned that if her expectations were not met, she may experience more depression.

Findings during this evaluation revealed a complexity of factors that revealed the presence of marked neurocognitive impairments associated with new learning within the context of average premorbid abilities and intact reasoning skills. Her inability to acquire novel information will affect academic progress and vocational success by limiting the degree, breadth, and speed with which she would make favorable adjustments and application of novel ideas. She remained persistent and highly motivated. She appeared to be an excellent candidate for therapeutic intervention and study.

Recommendations:

1) Brittany had marked deficits regarding new learning and would require additional time on examinations in addition to remediation.

2) Cognitive therapy was recommended in order to help Brittany acquire compensatory strategies.

3) While Brittany's examinations revealed mild to moderate levels of depression and anxiety, she remained quite optimistic and positive. Nevertheless, continued psychiatric intervention was warranted.

4) Careful observation should be made in order to ensure that Brittany did not precipitously deteriorate in response to perceived failures and/or unfulfilled expectations.

5) Personal adjustment counseling would be warranted in order to help provide emotional support and direction.

6) Brittany avoided situations that challenged and/or exposed her weaknesses while drawing attention to her deficits. She appeared preferential toward adult relationships that provided mature conversations, ideas, and interactions. Hopefully, future programs such as college at UF will include group interactions in order to facilitate her psychological and social development.

7) Although Brittany appeared to be making adequate progress at the high school level, her scores on measure of new learning suggested she would have marked difficulties at the college level. Instead, Brittany would perform more effectively within a vocational-like program.

<u>Diagnostic Impression:</u>

Axis I: Dementia due to Head Trauma
Depressive Disorder, NOS
Anxiety Disorder due to Quadriplegia

Axis II: No Diagnoses

Axis III: Traumatic Brain Injury, Incomplete Quadriplegia

Axis IV: Social Stressors, Chronic Infirmities

Axis V: Current GAF: 60

Records Reviewed:

Lanty, Devon Ph.D.: 5/6/08; 5/13/08 (In File)

Activities Of Daily Living

Sleep Pattern

Average Hours Sleep/24 Hours: She may get about 12 hours sleep on a good night.
Sleep Difficulties: She has some difficulties sleeping at times. She takes Adderal and sometimes if this is in her system too late, this may keep her awake. She may not sleep 1-2 days during an average week.

Independence In

Dressing: Brittany does her own hygiene and make up; she has help with her hair and she can help with dressing. She is not totally independent in dressing, however. She is learning how to empty her own leg bag.

Housework: Unable to perform.

Cooking: Unable to perform.

Laundry: Unable to perform.

Yard Work: Unable to perform.

Social Activities

Organizations Pre/Post:
Pre: She played softball in high school and club.
Post: N/A

Volunteer Work Pre/Post: None pre or post.

Socialization Pre/Post: Very social pre. She feels very isolated post injury.

Hobbies (Present): Web designing.

Hobbies (Previous): Softball, going out with her friends to the beach; running.

Personal Habits

Smoking: No.
Alcohol: Very occasionally she will have a sip of beer.
Drugs: Not taking any drugs that are not prescribed.
History of Abuse and/or Treatment Programs: Denies.

Socioeconomic Status

Number in Residence: Four, parents and younger brother, age 3.
Type of Residence: Two story house; the downstairs is modified for her, but she cannot get upstairs. She has a roll-in shower, ramps, widened doors (new construction) and the house already had wooden floors.

Income

S.S.I. : She did not qualify at the time, they will apply again.
Medicare: No

Other Agency Involvement

State Vocational Rehabilitation: State VR is working with them through the school system; State VR helped with purchasing her computer system. They will not pay tuition for college, however.
State Employment Services: No.
Rehabilitation Nurse: No.
Other Agency: Florida Brain and SCI Program - helping with some adaptive equipment.
Felony Convictions? No

Education & Training

Highest Grade Completed: At the time of the evaluation, she had just graduated from High School and hopes to start college in January.

Miscellaneous Education Information: She has Bright Futures Scholarship.

Employment History

Released to Return to Work: No
Work History Since Injury: No

Employer: Chili's
City/State: Tampa, FL
Position: Food Service
Start Date: 5/9/05
End Date: 5/06
Schedule: Part-time
Wage: $7.25/hour
Duties: Waiting tables, cleaning and training of new hires.
Reason for Leaving: Auto accident

Observations

Orientation: Alert and oriented x's three
Stream of Thought: Clear and rational
Approach Toward Evaluation: Positve.
Attitudes/Insight: Good/Fair to good.
Appearance: Overtly impaired but presents very well.

Tests Administered

As part of this evaluation, Brittany was asked to complete the Beck Depression Inventory-II; the Beck Anxiety Inventory; the Beck Hopelessness Scale; the Beck Scale for Suicidal Ideation; and the Minnesota Multiphasic Personality Inventory-2, (MMPI-2).

On the Beck Depression Inventory-II, her score of fifteen suggests a moderately elevated clinical depression. This is consistent with the results of the clinical interview and the depression scale of her MMPI-2. The combination of test results and clinical interview meet the criteria within the DSM-IV-TR for a diagnosis of Depressive Disorder-Single Episode-Moderate-296.22.

On the Beck Anxiety Inventory, her score of twenty-four does indicate a clinically significant level of anxiety. This is consistent with findings on her MMPI-2 and clinical interview. The combination of test results and clinical interview meet the criteria within the DSM-IV-TR for a diagnosis of General Anxiety Disorder-300.02

On the Beck Hopelessness Scale, her score of four suggests an optimistic outlook on her future. Research indicates scores of nine or more are predictive of eventual suicide in depressed suicidal ideators. Research also indicates the Hopelessness Scale is far more predictive of suicidal tendencies in the future than the results of the depression scale, and must be used in conjunction with clinical interview and the Beck Scale for Suicidal Ideation for more accurate results. Her results on this scale are also consistent with her MMPI-2 results. Brittany appears to be coping at a basic level with many of the psychological issues stemming from her disability, at least in the sense that she does not appear suicidal or self-destructive. I do not glean any suicidal ideation from clinical interview or test results.

On the Beck Scale for Suicide Ideation, Brittany's score of zero demonstrates her lack of suicidal ideation.

On the MMPI-2, a valid profile is obtained based on a review of the validity scales. There is some indication of the use of denial and repression likely used to deal with some of her psychological response to disability. Overall, this is not severe. Consideration is first given to the VRIN (variable response inconsistency) and TRIN (true response inconsistency) subscale, which uses paired responses of similar and opposite items to measure inconsistencies in response patterns. An inconsistent response pattern represented by significantly elevated T-scores can invalidate the profile. In Brittany's case, the T-scores are within normal limits. Next, I evaluated the F, F sub b and F sub p scales, which represent infrequently endorsed items that are sensitive to random and fixed responding. Again, significantly elevated T-scores can invalidate the MMPI-2 results. A scale, recently added to the profile in the past few years, is the FBS or Fake Bad Scale similar to the combine "fake bad" profile previously used by examining a combination of several validity scales. Brittany does not show elevations on any of the F scales or the FBS. When looking at the FBS the circumstances of the assessment must be taken into consideration. For example, any significant physical injuries, chronic illnesses or medical findings that could artificially elevate scores on the FBS as a result of the patient truthfully responding to test questions would effectively reset the normative floor for determining when a patient is "faking bad".

Finally, I reviewed the L, K and S scales. In this instance, T-scores greater than 79 on the L scale, 75 on the K scale and 70 on the S scale tend to reflect individuals who are demonstrating protocols characterized by a pervasive pattern of nonacquiescence. This is a pattern often referred to as a "fake good" profile. The individual is trying to present a better picture of them self than actually exists. Brittany's scores do not exceed these parameters,

therefore, her MMPI-2 is considered valid. There is no evidence of impression management and no indication of either "fake good" or "fake bad" profiles. She shows no indication of malingering in her clinical scales.
On the clinical scale, Brittany demonstrates clinical elevations on the first two scales of the trial profile, somatic focus and depression. She does not show an elevation on hysteria/anxiety response to exposure to disability over time.

In addition to the triad indicators, Brittany demonstrates clinical scale elevations on scales eight, seven and six, (in order of elevation). This profile suggests feelings of inadequacy, inferiority, lowered self-esteem, poor self-concept and a lack of self-confidence. The profile also reveals anxiety, guardedness, anger and resentment over her situation as well as feelings of depression, sadness and withdrawal.

The relatively new Restructured Clinical Scales preserve the valuable descriptive features of the existing Clinical Scales and enhance their distinctiveness. The RC Scales profile constructed a demoralization scale, extracting the general complaint or malaise factor represented to some degree in each of the clinical scales. These scales then go on to identify the major dimensions of eight of the ten clinical scales, excepting scales 5 and 0. The RC scales are the result:

- RCD-Demoralization
- RC1-Somatic Complaints
- RC2-Low Positive Emotions
- RC3-Cynicism
- RC4-Antisocial Behavior
- RC6-Ideas of Persecution
- RC7-Dysfunctioal Negative Emotions
- RC8-Aberrant Experiences
- RC9-Hypomanic Activation

In Brittany's profile, she demonstrates elevations on RC-1, RC-2 and RC-3 essentially refining distinctive features of her clinical scale elevations of somatic complaints, low positive emotions and cynicism.

Despite clear indications on testing of this disability's impact on Brittany's self-esteem, self-concept and self-confidence, I am impressed with her commitment to her future. She has a strong desire to attend the new transitional living program in Orlando and hopes to attend a four-year state University. Her motivation, attitude, strong family support along with access to the opportunities she needs for transitional living and education will help her to improve psychologically and achieve many of the goals she is setting for herself.

I recognize that the neuropsychologist said in the report of May 2008: *"Although Brittany appeared to be making adequate progress at the high school level, her scores on measures of new learning suggested she would have marked difficulties at the college level. Instead, Brittany would perform more*

effectively within a vocational-like program." I have taken this into consideration but I am also considering the goals, aspirations and motivation of Brittany. I do not want to shut down those aspirations this early in her rehabilitation process. In consideration of the neuropsychologist's concerns, I am not including tuition to a four-year program in the Life Care Plan, but I am supporting her effort and recommending the safety net of counseling and vocational rehabilitation support so that the educational effort will not prove to be a failure experience, but will continue to be a positive learning effort on her part, regardless of outcome.

Axis I: Generalized Anxiety Disorder-300.02.
Depressive Disorder-Single Episode-moderate-296.22.
Adjustment Disorder with depressed mood-309.0.
Chronic disability disorder due to general medical condition and psychological factors-307.89.
Cognitive Disorder NOS-294.9.

Axis II: Deferred.

Axis III: Severe contusion of the right lung as well as a pneumothorax
S/P placement of a halo
S/P posterior cervical C6-7 laminectomy, C5 through C7 lateral mass plating with reduction of jumped facets, C6-7 anterior cervical diskectomy with partial C6 corpectomy. Allograft was used in a ventral dural decompression and placement of an Atlantis plate was completed.
C6 quadriplegia
MRI of the brain on 5/17/06 revealed possible shear injuries of the splenium of the corpus callosum and medial left thalamus and possible anoxic injuries to the pulvinar regions of the thalami, left greater than the right and to portions of the putamen on both sides as well as the parietal white matter.
Fracture C5-C7
Traumatic shock
Depression
Severe tension headaches
Hypersomnolence due to TBI
Hoarseness – etiology appeared multi-factorial
Gastroesophageal Reflux Disease – She had evidence of posterior glottic erythema and edema consistent with laryngopharyngeal reflux.
2006 Neuropsychological report - combined tetraplegia, physical symptoms, cognitive impairments and evolving emotional distress significantly impacted her daily functioning and would all need to be addressed in a comprehensive home, school and community reintegration program.

Axis IV: Life Stressors secondary to disability and psychological response to exposure to disability.

Axis V: Current GAF – 70.
Highest GAF in past year – 65.

Comments

The Life Care Plan attached to this report considers that Brittany represents an individual with a dual diagnosis. The term *Dual Diagnosis* refers to the presence of traumatic brain injury (TBI) in individuals who have sustained a traumatic spinal cord injury (SCI). For all persons with SCI, rehabilitation involves the learning of new strategies to maximize independence and facilitate care in the areas of mobility, bowel and bladder function. Individuals with the dual diagnosis of SCI/TBI however, are likely to require different rehabilitation strategies, including extra reinforcement and practice of newly learned skills. They may find it difficult to pay attention, learn and remember new information, organize and prioritize new information and perform multiple tasks simultaneously. *(**Source:** Connections – A Publication for People with Spinal Cord Injuries, Karen Kepler, DO, Ph.D., Fall/Winter 2003, Volume XII Issue 2. Published semi-annually by Kessler Medical Rehabilitation Research and Education Corporation (KMRREC) for people with SCI and their families. Project funded by National Institute on Disability and Rehabilitation Research).*

Persons with a Dual Diagnosis (DDS) evidenced a significantly more impaired Cognitive FIM (Functional Independence Measure) score at admission and discharge from rehabilitation. Persons with a DDS also achieved a significantly lower Motor FIM change than persons with SCI. Conclusion was that persons with a DDS achieved smaller functional gains during rehabilitation than peers with SCI. Brain injuries tended to achieve smaller functional gains during rehabilitation than peers with SCI. Brain injuries seem to limit functional gains, although the relationship between brain injury severity and functional change is not linear. *(**Source**: Effect of Co-Morbid Traumatic Brain Injury on Functional Outcome of Persons with Spinal Cord Injuries. Macciocchi, S.; Bowman, B., MD., Coker, J., MPH, Apple, David, MF, D. Leslie, MD. American Journal of Physical Medicine and Rehabilitation, Vol. 83, No. 1, January 2004).*

Conclusions

Careful consideration has been given to all of the medical, psychosocial, and rehabilitation/mental health counseling data contained within this file and my report. Brittany remains significantly disabled secondary to the 5/6/06 onset of disability and subsequent complications. She is not functional for independent living skills, and it is anticipated that she will require assistance and supervision throughout the remainder of her life. The extent of this assistance and supervision will be discussed below, and specific recommendations are contained within the Life Care Plan.

In addition to the medical, psychosocial and rehabilitation/mental health counseling data, consideration is given to the research literature on Spinal

Cord Injury and Traumatic Brain Injury, and attention is paid to the Clinical Practice Guidelines for Spinal Cord Injury and TBI promulgated by multiple sources and cited in the Life Care Plan. Correspondence with treating physicians was accomplished and the Life Care Plan was also reviewed by our in-house Physiatrist, Andrea Zotovas, M.D. All of these steps are taken to help in establishing the medical foundation in addition to the case management and Life Care Planning foundations for the Plan.

Brittany has a dual diagnosis, referring to the presence of Traumatic Brain Injury (TBI) in addition to having sustained a spinal cord injury (SCI). Approximately 25% - 60% of individuals with acute SCI are reported to have sustained a concomitant brain injury, as manifested by the presence of cognitive deficits, primarily in the areas of new learning and memory functioning.

Spinal cord injury alone is a devastating event that results in physical disability. When the SCI is combined with a brain injury, the degree of disability can be magnified and the patient's rehabilitation becomes further complicated. Individuals like Brittany, with a dual diagnosis, typically demonstrate an inability or resistance to carry out functional activities appropriate to his/her level of injury. Cognitive deficits can limit or complicate their ability to adapt to their physical limitations, learn compensatory skills, and achieve the maximal level of independence. Those individuals with a dual diagnosis require a wide base of physical, psychological, educational, and medical support. The therapies utilized are likely to require different rehabilitation strategies including extra reinforcement and practice of newly learned skills. Those with a dual diagnosis may find it difficult to pay attention, learn and remember new information, organize and prioritize new information and perform multiple tasks simultaneously. Individuals with this dual diagnosis are more likely to suffer fatigue, irritability, headaches, dizziness or changes in vision or sense of smell. Because individuals with a dual diagnosis are at a high risk for developing complications, lifelong interventions and involvement from an interdisciplinary team to provide a safety net will be required.

The Life Care Plan includes the cost of additional rehabilitation (Transitional Living Program) in order to teach Brittany about Spinal Cord Injury and how to care for herself. This provides the therapy needed to improve her physical strength, while ultimately leading to greater independence in her personal care and her ability to handle her ADLs, within her physical capabilities.

A Life Care Plan is a dynamic document based upon published standards of practice, comprehensive assessment, data analysis, and research, which provides an organized, concise plan for current and future needs, with associated costs, for individuals who have experienced catastrophic injury or have chronic health care needs. *(Source: International Academy of Life Care Planners).* Through the development of a comprehensive Life Care Plan, a clear, concise, and sensible presentation of the complex requirements of the patient are identified as a means of documenting current and future medical

needs for individuals who have experienced catastrophic injury or have chronic health care needs.

The goals of a comprehensive Life Care Plan are to: improve and maintain the clinical state of the patient; prevent secondary complications; provide the clinical and physical environment for optimal recovery; provide support for the family; and to provide a disability management program aimed at preventing unnecessary complications and minimizing the long-term care needs of the patient. The main avoidable complications requiring careful monitoring and appropriate preventative and treatment programs are: bladder and renal tract complications; constipation or diarrhea; under nutrition; respiratory infections; stress ulceration; deep vein thrombophlebitis; decubitus ulceration; complications of medications and disruption of family dynamics.

The Life Care Plan outlines all of Brittany's needs dictated by the onset of disability throughout her life expectancy. Counseling should be provided to her in order to assist her in adjusting to her disability. Additionally, family counseling should be made available to her parents, in order to help them cope with the changes and demands that have been placed on them since Brittany's injury.

The Life Care Plan will also discuss the effects of aging with Spinal Cord Injury and steps that must be taken to provide additional services at appropriate times, to prevent complications.

A Vocational Worksheet, attached as Appendix B, outlines Brittany's capacity to earn pre-injury as compared to her capacity to earn post-injury, along with related vocational issues. Her vocational handicaps include those consistent with a Spinal Cord lesion at the C6-C7 level, resulting in quadriplegia, and a Traumatic Brain Injury, as follows:

The restrictions/limitations associated with the Quadriplegia include:

- Altered sense of tactile sensation
- Reaching
- Lifting
- Sitting
- Standing
- Walking
- Bending
- Twisting
- Kneeling
- Stooping
- Squatting
- Climbing
- Balance
- Neurogenic bowel and bladder
- Reduced physical stamina; extreme fatigue

- Inability to tolerate extremes in temperature

Brittany's deficits in the cognitive, behavioral/psychological and motor/physical realms of functioning include:

Cognitive Deficits:
- Reduced attention span and ability to concentrate
- Some difficulty learning new information. Brittany feels learning and retaining new information is much more difficult and conceptual learning and learning through lecture is much more difficult. She has to work much harder to learn and retain information and she has to go over material multiple times.
- Prolonged time needed regarding problem solving and decision making
- Unable to live independently and manage daily responsibilities (due to combined TBI and SCI)
- Delayed Memory
- Thought organization and Planning - slowed
- Poor self-initiation
- Word retrieval deficits

Physical/Motoric Deficits and Limitations:
- Primarily related to the Spinal Cord Injury, but right UE limitations related to TBI.

The Vocational Worksheet (Appendix B) discusses how these handicaps impact her ability to work and earn post injury.

After you have had an opportunity to review this narrative report and the attached appendices, please do not hesitate to contact me should you have further questions.

Respectfully Submitted,

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PAUL M. DEUTSCH & ASSOCIATES, P.A.

ATTACHMENTS: Appendix A - Life Care Plan
Appendix B - Vocational Worksheet