

NARRATIVE SUMMARY

Jane Doe, a YY-year-old woman had been leading a contented lifestyle until she was involved in an accident on MM/DD/, 2018, which turned her well-ordered life topsy-turvy.

PREMISES LIABILITY – MM/DD/2018

On MM DD, 2018 at approximately 3:00 p.m., Ms. Doe struck her head on an iron pole at a XXX Factory while she was returning clothing from a dressing room. The impact caused Ms. Doe to move backwards abruptly. She was shocked for a moment and suffered from loss of consciousness for a few seconds.

Following the accident, she went home and applied ice to her head and neck for relief. She experienced severe headaches for several days following the impact which she described as a burning sensation that encompassed her entire head.

On MM DD, 2018, Ms. Doe presented to Ezekiel XXX , M.D., at XX Clinic for the complaints of severe headaches. She reported that she had developed a knot on her forehead since the time of her hitting the head on the pole. On examination, she had a laceration to her forehead. Gabapentin was prescribed and a CT angiogram of her brain was ordered. She was advised to follow up in 4 weeks.

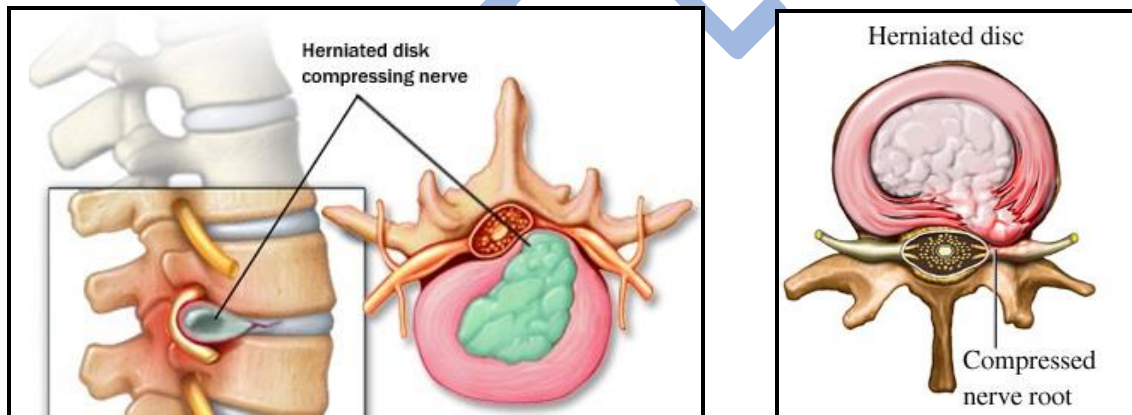
On MM DD, 2018, Ms. Doe presented to Mary XX , AGACNP-BC at XX Health XX for the complaints of headaches and burning pain in her neck and left shoulder. Her pain symptoms worsened with movements and when raising her left shoulder. She felt relief when lying down in bed as well as with taking pain medications such as Ibuprofen. She reported that she had hit her head against the iron pole on MM DD, 2018, thereby sustaining lacerations and swelling in her head. In addition, she complained of having insomnia due to her pain. On examination, she had restricted range of motion in her neck and muscle spasms in the left of her cervical paraspinals and upper trapezius muscles. There were a laceration and a healed scar on the left side of her forehead. She was diagnosed with headaches, pain in her left shoulder and neck, and insomnia. She was recommended to receive physical therapy and apply ice packs/heat packs to her painful areas. Ibuprofen and Flexeril were prescribed. A CT of her head and an X-ray of her cervical spine were ordered. She was advised to follow up with the neurologist for the management of her headaches and return to the clinic in 3 weeks.

On the same day, Mohsin XX, M.D., obtained an X-ray of Ms. Doe's cervical spine at XX Health XX, which revealed degenerative changes involving the cervical spine. There were no acute fractures or dislocation seen.

On MM DD, 2018, Ms. Doe had her initial chiropractic therapy evaluation with Randall XX , D.C., at XX Chiropractic Clinic for the complaints of headaches and pain on the left side of her shoulder, neck, and upper back. Her pain radiated to her bilateral arm. She was unable to sit in a single position for a prolonged period of time. On examination, she had spasms in her trapezius, deltoids, paraspinals,

rhomboids, and deltoid muscles. Her treatment was comprised of application of hot/cold packs, electrical muscle stimulation, diathermy, traction and massage. She was provided with instructions in adherence to home exercise program.

On MM DD, 2018, Mustafa XX , M.D., obtained an MRI of Ms. Doe's lumbar spine at XX Services. The study revealed a 2 mm left paracentral broad-based disc herniation at L1-2 levels that indented the ventral thecal sac lateralizing to the left. There was bilateral facet hypertrophy with hypertrophic ligaments, bilateral foraminal stenosis left more than right, and moderate central spinal stenosis. There was a 4 mm postero-central broad-based subligamentous disc herniation at L2-3 levels that indented the ventral thecal sac along with bilateral facet hypertrophy with hypertrophic ligaments, bilateral foraminal stenosis, and a mild central spinal stenosis. There was grade 1 anterolisthesis of L3 over L4 and a 5 mm postero-central broad-based disc herniation at L3-4 levels that indented the ventral thecal sac. The herniated disc lateralized bilaterally and there was bilateral foraminal stenosis and impingement of exiting nerves. She had moderate facet hypertrophy with moderate central spinal stenosis. There was a 2 mm postero-central broad-based disc herniation at L4-L5 levels that indented the ventral thecal sac. She had bilateral facet hypertrophy with hypertrophic ligaments, right more than left with impingement of right exiting nerve. There was a 3 mm postero-central broad-based disc herniation at L5-S1 levels that indented the ventral thecal sac. The herniated disc lateralized bilaterally along with bilateral facet hypertrophy, left more than right. There was impingement of left exiting nerve.



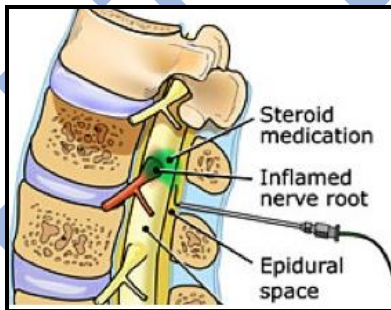
On the same day (MM DD, 2018), Dr. XX obtained an MRI of Ms. Doe's left shoulder at XX Services. The study revealed hypertrophic arthropathy of the acromioclavicular joint and minimal joint effusion. There was high-grade partial tear of her rotator cuff, particularly the supraspinatus. There was fluid surrounding her supraspinatus tendon.

On the same day (MM DD, 2018), Dr. XX obtained an MRI of Ms. Doe's cervical spine at XX Services. The study revealed bilateral uncovertebral and facet hypertrophy and bilateral foraminal stenosis, left more than right at C4-5, C5-6, and C6-7, levels with impingement of left exiting nerve. There was loss of height of disc and moderate anterior spondylosis. There was a 3 mm postero-central broad-based disc herniation at C7-T1 levels that indented the ventral thecal sac. She had bilateral uncovertebral and facet hypertrophy, bilateral foraminal stenosis, and impingement of exiting nerves.

From MM DD, 2018 until MM DD, 2018, Ms. Doe received rehabilitative treatment at XX Chiropractic Clinic for the complaints of headaches and pain in her neck, left shoulder, upper back, and lower back. Her treatment was comprised of chiropractic manipulation, extremity manipulation, electrotherapy, traction, massage, application of hot/cold packs and diathermy.

On MM DD, 2018, Ms. Doe presented to Nooruddin XXX, M.D., at XXXXXX for the complaints of pain in her neck and back. The pain in her lower back radiated to her left lower extremity. Her symptoms were aggravated by prolonged sitting, standing, walking, bending and picking up. Her symptoms were relieved by the application of heat and cold packs as well as massages. She underwent therapy for 5 months and reported no significant relief in symptoms. On examination, she had limited range of motion and palpable tenderness over her neck and lower back. She had decreased patellar and Achilles reflexes. The orthopedic Straight Leg Raising Test was positive. She underwent assessment, and as a result of it, she had lower back pain radiating to her left lower extremity and neck pain as a result of the accident on MM/DD/, 2018. She was recommended to receive cervical and lumbar epidural steroid injections for pain relief. She was advised to continue receiving physical therapy/chiropractic treatment for further care. She was advised to follow up.

On MM DD, 2018, Dr. XXX administered lumbar epidural steroid injection at Ms. Doe's L5-S1 levels via interlaminar approach at XXXXXX. Her diagnoses were lumbar spondylosis and stenosis, lumbar radiculopathy, and lumbago along with numbness/tingling sensations.



On MM DD, 2018, Dr. XXX administered cervical epidural steroid injection at Ms. Doe's C7-T1 levels via interlaminar approach at XXXXXX. Her diagnoses were cervical spondylosis and stenosis, and cervicgia.

On MM DD, 2018, Ms. Doe had a follow-up visit with Dr. XXX at XXXXXX status-post her cervical and lumbar epidural injections. She complained of pain in neck and lower back that radiated to her thighs. On examination, she had decreased range of motion and palpable tenderness over her left neck region and lower back. She was recommended to receive cervical and lumbar epidural steroid injections for pain relief and was advised to continue receiving physical therapy/chiropractic treatment for further care. She was advised to follow up in a week.

On MM DD, 2018, Dr. XXX administered lumbar epidural steroid injection at Ms. Doe's L4-L5 levels via interlaminar approach at XXXXXX.

On MM DD, 2018, Dr. XXX administered cervical epidural steroid injection at Ms. Doe's C7-T1 levels via interlaminar approach at XXXXXX.

On MM DD, 2018, Ms. Doe returned to Dr. XXX at XXXXXX status-post her cervical and lumbar epidural injections. She continued to have pain in her neck and lower back that radiated to her legs. On examination, she had limited range of motion and palpable tenderness over her neck and lower back. The orthopedic Straight Leg Raising Test was positive. Meloxicam was prescribed. She was recommended to undergo cervical and lumbar epidural steroid injections for pain relief and was advised to continue receiving physical therapy/chiropractic treatment for further care. She was advised to follow up in a week.

On MM DD, 2018, Dr. XXX administered lumbar epidural steroid injection at Ms. Doe's L2-L3 levels via interlaminar approach at XXXXXX.

On MM DD, 2018, Ms. Doe had a follow-up visit with Dr. XXX at XXXXXX status-post her cervical and lumbar epidural injections. She complained of mild residual burning sensation in her neck and mild residual stiffness in her lower back. She was taking Ibuprofen and Aspirin. On examination, she had palpable tenderness over her neck and had reduced range of motion in her neck and lower back. The orthopedic Straight Leg Raise test and Lasegue sign were positive on the left side. She was advised to continue receiving physical therapy/chiropractic treatment for further management and return to the clinic, if clinically indicated.

On MM DD, 2018, Ms. Doe had her chiropractic treatment evaluation with Dr. XX at XX Chiropractic Clinic for the complaints of headaches and pain in her neck and back. She reported that at the time of accident she was dazed and had vision impairment. She had difficulty performing her activities of daily living, extended standing, walking, stooping, prolonged driving and bending. On examination, she was in moderately severe pain and distress with antalgic posture. The orthopedic, neurological, and physical examinations revealed positive findings for cervical spine flexion/extension, lateral flexion, and rotation with positive Foraminal Compression test. She had palpable tenderness and spasms and contractures in her neck, costal muscles and ribs, upper back, mid-back, and lower back. She also had palpable tenderness over her right sternoclavicular joint, biceps tendon, and shoulder muscles.

On the same day (*MM DD, 2018*), Ms. Doe was diagnosed with post-traumatic headaches, traumatic cervical spine sprain with acceleration/ deceleration syndrome, traumatic thoracic spine sprain with neuralgia, traumatic left shoulder and lumbar spine sprain, sprain of ligaments of left sternoclavicular joint and sacroiliac joint, and psoas tendinitis. She continued to have residuals in her neck and lower back as well as symptoms of traumatic brain injury. Dr. XX opined that any injury to the foraminal confined to the spine would cause neurological insult to the motor and peripheral nerves with spinal somatic and spinal visceral syndromes as well as the concurrent myositis. Dr. XX stated that patients with residuals might have symptomatic episodes from 90 days to two years in 76% of the cases and up to ten years in others. A pain management consultation was recommended and she was advised to follow up as needed.

On MM DD, 2018, Ms. Doe attended her final rehabilitative treatment session, conducted by Dr. XX at XX Chiropractic Clinic for pain and stiffness in her neck and lower back. Her treatment was comprised of application of hot/cold packs, electrical muscle stimulation, diathermy and traction.

On MM DD, 2018, Ms. Doe presented to Huma XXX, M.D., at XXXX. She suffered from headaches, traumatic brain injury with neuro cognitive deficits, depression and anxiety, vestibular ataxia, auditory deficits, insomnia, generalized body pain, and intention tremor. She reported that her headaches would last for 3 hours and occur 3-4 times a week. She rated the pain from her headaches as “8/10” on a scale from 0 to 10 with 0 being no pain at all and 10 being the most severe. She had migraines that originated from her frontal lobe and radiated to her occipital lobe. She stated that any stress and watching television triggered her migraines. She was taking Ibuprofen and Aleve for pain relief.

On the same day (*MM DD, 2018*), Ms. Doe reported that since the accident she had experienced neuro-cognitive dysfunction that included dizziness, ringing in her ears, trouble sleeping, fatigue, attention deficits, short term memory deficits, mood swings, irritability, fatigability, anxiety, and depression. Her daughter told her that she had become much more impatient and irritable. She stated that she said things that she did not mean and had a shorter temper than she did prior to the trauma. She was unable to maintain her focus for longer than 10 minutes and had difficulty in watching movies. She reported lack of motivation.

On the same day (*MM DD, 2018*), Ms. Doe stated that she was concerned about her recovery and her ability to contribute to her family’s well-being. She frequently experienced a sense of imbalance due to which she started reaching for objects for stabilization when walking. She would often sit whenever she walked as she had the fear of falling. She also experienced ringing in her ears concurrent with a post-traumatic migraine. She reported that her hearing faculty started to worsen due to which she was using bilateral hearing aids. She had difficulty falling asleep that resulted in fatigue. She experienced the tremor when reaching for objects and anxiety intensified her tremor. In addition, she complained of pain in her left shoulder, neck, and back. She rated her left shoulder pain as “6/10”, neck pain as “5/10”, and back pain as “9/10” on a scale from 0 to 10 with 0 being no pain at all and 10 being the most severe. She continued to experience burning sensation in her left shoulder.

On the same day (*MM DD, 2018*), Ms. Doe was anxious and emotional during the interview. She was noted to have reduced hearing capacity. She was unable to perform tandem gait, walk on toes, and walk on heels with eyes open or with eyes closed due to imbalance. She almost fell when performing tandem gait with eyes closed. She had an intention tremor and a decreased strength in her left hand. She was noted to have mild apraxia of speech for diadochokinetic rate and for utterance time for polysyllabic words, which showed impairment of speech motor performance, articulatory and phonatory processes that were involved in speaking. Her speech was less fluent when compared to normal subjects. She was at a risk for developing long term complications as a result of her head injury such as post-traumatic seizures, post-traumatic hypopituitarism, post-traumatic headaches, neuropsychiatric illness, sleep disturbances, behavioral disturbances, executive dysfunction, emotional dysregulation, cumulative effects of repeated traumatic brain injury and chronic traumatic encephalopathy, post-traumatic stress disorder, aging/cerebral atrophy with traumatic brain injury, and movement disorder.

On the same day (*MM DD, 2018*), Dr. XXX stated that since the accident, Ms. Doe had been suffering from migraines, which had the intensity of “8/10”, three to four times/week. There was a temporal relationship between the accident and the onset of migraine. Thereby, her ability to enjoy activities that she was able to do prior to her having the injury would be negatively impacted, and her quality of life would be diminished. Her traumatic brain injury and its effects would have a direct negative impact on her ability to help care for her family and to perform household tasks. She was diagnosed with traumatic brain injury with neuro-cognitive deficits, post-traumatic headaches/ migraines, post-traumatic tinnitus, post-traumatic vertigo and vestibular ataxia, insomnia, intention tremor in her left hand, depressive disorder/generalized anxiety disorder, and cervical and lumbar radiculopathy. Her neuro-cognitive deficits affected her areas of memory, learning, intelligence, language, calculation, visual and spatial analysis, problem solving, judgment, abstract thinking, and executive functions.

On the same day (*MM DD, 2018*), Ms. Doe was provided with Neuro-rehabilitative exercises to restore/improve her diminished brain functions. She was instructed in stress management techniques such as meditation and massage therapy. She was advised on compensatory strategies to implement in her daily living, which included allowing more time to complete tasks to avoid time pressures, utilizing a day planner/calendar to record appointments and important future tasks, writing down and organizing information to be remembered by carrying a small notebook and pen, breaking up longer tasks into multiple, shorter tasks and avoid multitasking, completing tasks in a quiet room, turning off televisions or other distracting sources and stopping and taking a break before returning to the task, if fatigued.

On the same day (*MM DD, 2018*), Topiramate, Venlafaxine HCL, Hydrocortisone-Acetic Acid 1-2% ear drops, Propranolol, and Butalbital-Acetaminophen-Caffeine were prescribed. She was advised to discontinue taking Ibuprofen. Treatment options that included administering Botulinum toxin injection and bilateral greater and lesser occipital nerve block under ultrasound-guidance and bilateral third occipital nerve block under fluoroscopy were discussed. She was advised to practice good sleep hygiene. Neuro-cognitive recovery supplements that included Vitamin-D, Fish Oil / Omega-3, Probiotic, Magnesium L Threonate, Vitamin-B12, Co-Enzyme Q10, N-Acetyl Cysteine, Zinc, Alpha Lipoic Acid, Phosphatidylserine, and Glucoraphanin were recommended. Her vestibular dysfunction adversely affected processes of attention and increased demands of attention could worsen the postural sway associated with vestibular disorders. She was recommended to receive recommend pharmacotherapy as well as comprehensive neurocognitive and behavioral rehabilitation.

On the same day (*MM DD, 2018*), Dr. XXX advised Ms. Doe to perform stable visual activities such as reading instead of watching TV or Cell phone. She was instructed to keep her eyes open when showering and to avoid walking in the dark. She was advised to use tinnitus maskers and listen to soft background music to distract her from concentrating on the ringing in her ears. She was instructed to use relaxation techniques to reduce her anxiety. She was recommended to undergo a Hearing (*Audiology*) evaluation, Neuro-otologic evaluation of her vertigo and brainstem functioning and also a Neuropsychological Assessment Battery testing, if her neuro-cognitive deficits persisted. She was advised to follow up in a month.

On *MM DD, 2019*, Ms. Doe had a follow-up visit with Dr. XXX at *XXXX* for a Neuropsychological Assessment Battery testing due to suspected cognitive decline secondary to traumatic

brain injury. She reported that since the accident she had exhibited signs of neuro-cognitive dysfunction and was unable to remember her intentions and complete her tasks. She had short-term memory deficits and attention deficits. She suffered from visual and auditory deficits, delayed calculation abilities, easy fatigability, irritability, anxiety, depression, and insomnia. She struggled from recalling events of the previous day. She had trouble holding a conversation and questions had to be repeated multiple times. Her ability to concentrate, focus, and pay attention to a situation was damaged. She was unable to maintain her focus for more than 10 minutes. She also suffered from insomnia to the extent of experiencing difficulty falling asleep 1-2 times weekly.

On the same day (*MM DD, 2019*), Ms. Doe reported that she suffered from the following memory gaps: arguing about an event that happened but had no recollection of her words, making it harder to communicate what she was trying to say; losing her train of thought in the mid conversation and forgetting the point of her sentence. She stated that she had severe mood swings that made her seem hateful. She was snapping back at everybody, even her grandbabies which she had never done that in the past. She used to be a very active and fit, especially during her school days when she was in a basketball team. Since the accident, she had been unable to stand, walk and even go for shopping with her family.

On the same day (*MM DD, 2019*), Ms. Doe complained of tremors on her left arm and hand as well as a burning sensation in her left shoulder and neck. She found herself physically, cognitively and emotionally handicapped that she could complete without suffering from some deficits or pain. As a result of the blunt trauma accident, she had deleterious effects on her cognition and behavior and her interpersonal relationships with her family members were under strain and continued to deteriorate. The Test of Premorbid Functioning Score was 28 (*average*). Her Test of Memory Malingering results fell within the valid range. She had difficulty processing the verbal instructions. Each test instruction was reiterated to her several times. She was suffering from word finding difficulties and confusion throughout the assessment. The results of several embedded and free-standing performance validity measures fell within normal limits, which indicated that her baseline cognitive capacity rendered the results of the subsequent testing valid. The abnormal domains of the Neuropsychological Assessment Battery from NAB results showed impairments and deficits in her language, memory list learning, memory shape learning, memory story learning, daily living memory, visuospatial functions, executive functions, and depression, anxiety, and insomnia. Her Epworth Sleepiness Scale score was 14 and Pittsburgh Sleep Quality Index Report score was 13. Her NAB index score summary table results showed moderately impaired language index and mildly impaired memory index, spatial index, and executive functions index.

On the same day (*MM DD, 2019*), Dr. XXX stated that Ms. Doe's Neuropsychological Assessment Battery showed deficits in higher cortical function, including but not limited to motor impairment such as difficulty manipulating her hands for writing, typing, using computer, or tool usage. She had limited speed to perform clerical error checking tasks. With respect to numerical and verbal data, her overall scores demonstrated a limited capacity to perform similar tasks. She had mild weakness in bilateral finger tapping, which was indicative of overall motor slowing. She demonstrated deficits in auditory attentional capacity, working memory for orally presented information, everyday living, working memory, visual scanning, having attention to details, and selective attention. She had mild impairment in performing tasks that included planning, organization skills, foresight, judgment, and self-regulation. She

had limited ability to solve two-dimensional spatial perception problems and had difficulty completing tasks that required visuoperceptual, visuospatial, and visuoconstructional accuracy. Her attention span was decreased. She had impairment of working memory and executive dysfunctions. She demonstrated a decreased aptitude to be involved in mechanical, technical, or artistic occupation.

On the same day (*MM DD, 2019*), Ms. Doe's Neuropsychological Assessment Battery showed moderate deficits in auditory comprehension as well as deficits in language, naming abilities, and writing abilities. Her scores revealed the following to be mildly impaired: short-term episodic memory, visual memory, immediate and delayed recall. Her memory pathways were damaged. She was unable to copy simple drawings and did not exhibit proper visual scanning when driving which indicated that the pathways between the eyes, cerebral cortex, and cerebellum were damaged. She had impaired visual memory and moderate deficits in conflict management, problem solving, teamwork, interpersonal skill, managerial skills, and leadership skills. She was unable to perform tasks in the correct order or sequence.

On the same day (*MM DD, 2019*), when contextual memory was assessed, Ms. Doe exhibited mildly diminished abilities to perform her daily activities, such as when at a doctor's appointment or in an academic work setting, she was more likely to miss details of conversations and discussions in which she participated. Her results indicated diminished ability to multitask simultaneously. The decline in contextual memory skills explained her current cognitive complaints post-injury. She lacked self-confidence since she was not functioning at the level she had been prior to the accident. She had moderate impairment of redrawing of a design from memory, which showed impairment of her visuoconstructional skills and executive functioning. She had impaired ability to establish, shift, and maintain set representing cognitive rigidity: She had impairment in the ability to switch between thinking about two different concepts and to think of multiple concepts simultaneously.

On the same day (*MM DD, 2019*), Dr. XXX opined that Ms. Doe had been a normally functioning woman until she suffered the blunt force trauma accident on MM/DD/, 2018. Following which, she suffered from numerous deficits such as cognitive, psychiatric, psychological, emotional, and physical. She had neuro-cognitive deficits, and while improvements might be made, a majority of the deficits could become permanent. She was unable to remember her intentions and complete her tasks. She experienced delayed processing speeds, short-term memory deficits, attention deficits, delayed calculation abilities, reading/processing language difficulty, easy fatigability, irritability, anxiety, and depression.

On the same day (*MM DD, 2019*), Dr. XXX diagnosed Ms. Doe with moderate neuro-cognitive deficits due to traumatic brain injury, depression, generalized anxiety disorder, post-traumatic headaches, motor weakness in her hands, post-traumatic vestibular dysfunction, and insomnia. Her Neuropsychological Assessment Battery results revealed moderate cerebral dysfunction. She demonstrated poor intellectual functioning, impaired visuospatial/visuoconstructional skills, decreased working memory, damaged memory for story material, impaired visual memory, impaired complex sequencing, poor graphic pattern regeneration, and the impaired ability to establish, shift, and maintain set. Her learning and recall capacity was poor. For the first time in her life, she had been clinically depressed. In addition to the depression, she demonstrated anhedonic and anxious mood. She also suffered from severe insomnia, and the resultant sleep deprivation exacerbated all other impaired neuro-cognitive functions.

On the same day (*MM DD, 2019*), Dr. XXX recommended Ms. Doe to receive neuro-cognitive rehabilitation to improve her immediate and delayed memory for words, designs, sustained attention, concentration, working memory, complex sequencing, poor judgment, reaction time, visual processing speed, learning memory, and focused attention. She was also recommended to receive cognitive rehabilitation with multidisciplinary team approach that encompassed Traumatic Brain Injury Specialist, Neuropsychologists, Speech-Language Pathologists, Occupational Therapists, Physical Therapist, and Social Workers. She would benefit from outpatient therapy with a Rehabilitation Psychologist, who could teach her additional coping mechanisms and compensatory strategies, on how to live with residual cognitive impairment, post-traumatic brain injury. The Cognitive Rehabilitation Therapy was divided into two components; Restorative and Compensatory approach. The restorative approach aimed at reinforcing, strengthening, or restoring the impaired skills. It included the repeated exercise of standardized cognitive tests of increasing difficulty and targeting specific cognitive domains (e.g., selective attention, memory for new information). The compensatory approach aimed at teaching ways of bypassing or compensating for the impaired function.

On the same day (*MM DD, 2019*), Dr. XXX advised Ms. Doe to continued taking Topiramate, Butalbital-Acetaminophen-Caffeine, Venlafaxine HCL, Hydrocortisone-Acetic Acid 1-2% ear drops, and Propranolol. Neuro-cognitive recovery supplements that included Vitamin-D, Fish Oil / Omega-3, Probiotic, Magnesium L Threonate, Vitamin-B12, Co-Enzyme Q10, N-Acetyl Cysteine, Zinc, Alpha Lipoic Acid, Phosphatidylserine, and Glucoraphanin was recommended. Treatment options that included administering Botulinum toxin injection and bilateral greater and lesser occipital nerve block under ultrasound-guidance and bilateral third occipital nerve block under fluoroscopy were discussed. She was advised to perform physical exercises and neuro-rehabilitative exercises as well as practice good sleep hygiene by adopting habits and routines that are conducive to sleeping. A speech language pathologist consultation, speech therapy, vestibular rehabilitation, cognitive behavioral therapy, relaxation techniques, deep breathing exercises, a use of therapeutic sounds, Epley maneuver and Meniett device were recommended for the management of her symptoms.

On the same day (*MM DD, 2019*), Dr. XXX instructed Ms. Doe in compensatory strategies to implement in her daily living, which included allowing more time to complete tasks to avoid time pressures, utilizing a day planner/calendar to record appointments and important future tasks, writing down and organizing information to be remembered by carrying a small notebook and pen, breaking up longer tasks into multiple, shorter tasks and avoid multitasking, completing tasks in a quiet room, turning off televisions or other distracting sources and stopping and taking a break before returning to the task, if fatigued. She was recommended to undergo psychotherapy in order to encourage her to comply with medical management, practice coping techniques, and problem-solving skills. An MRI of her the temporal bone and internal auditory canal were ordered.

On MM DD, 2019, Ms. Doe had a follow-up visit with Dr. XXX at XXXX. She reported a significant improvement in her post-traumatic headaches. She rated the pain from her headaches as “3-4/10” that occurred once a week, and lasted only 30-45 minutes each. In addition, she complained of pain in her neck, left shoulder, and back. She rated her pain level as “8-9/10” on a scale from 0 to 10 with 0 being no pain at all and 10 being the most severe. She stated that she stopped taking the prescribed

medications because her headaches were manageable. She had issues with staying focused. She reported that most of her neuro-cognitive symptoms have resolved and there was an improvement in her mood and sleep. The symptoms of her vestibular ataxia have resolved. She complained of blurred vision. She stated that her balance and dizziness had significantly improved by performing the vestibular exercises at home. On examination, she was anxious and emotional during the interview. The orthopedic Straight Leg Raise Test was positive. She had decreased strength and intention tremor in her left hand. She was unable to perform tandem gait, walk on toes, and walk on heels with eyes open or with eyes closed due to imbalance.

On the same day (*MM DD, 2019*), Ms. Doe was advised to continue with her vestibular exercises, compensatory strategies, neuro-rehabilitative exercises and general stress management techniques that included meditation, yoga, and massage therapy. Neuro-cognitive recovery supplements that included Vitamin-D, Fish Oil / Omega-3, Probiotic, Magnesium L Threonate, Vitamin-B12, Co-Enzyme Q10, N-Acetyl Cysteine, Zinc, Alpha Lipoic Acid, Phosphatidylserine, and Glucoraphanin was recommended. Educational handout on sleep hygiene was provided to her. She was instructed to substitute TV or Cell phone watching with stable visual activities such as reading. A cardiologist consultation was recommended for the management of her blurred vision and light headedness.

On *MM DD, 2019*, Ms. Doe returned to Dr. XXX at XXXX for the complaints of headaches and lightheadedness. She rated the pain from her headaches as “3-4/10” on a scale from 0 to 10 with 0 being no pain at all and 10 being the most severe. She reported improvement with her sleep. She continued to have trouble focusing. In addition, she complained of burning sensation in her neck and left shoulder. She stated that the accident worsened her left shoulder pain. She also had pain in her back and rated her pain level as “8-9/10” on a scale from 0 to 10 with 0 being no pain at all and 10 being the most severe. Activities such as prolonged periods of sitting and standing aggravated her pain symptoms. She was advised to follow up.