

GP is a 19-year-old Caucasian male. Before his all terrain vehicle accident (ATVA) he stood 68 inches tall and weighed 175 pounds. GP layed concrete for a living in the Middletown/Franklin area.

GP's childhood illnesses consisted of chicken pox before grade school, yearly flu since he was 10, and croup, which he had intermittently between the ages of 2-6. Prior to the ATVA he had only one major accident, which was a broken right wrist, which he injured falling backward on his rollerblades. He has never had any serious or chronic illnesses diagnosed that have not been mentioned. He did however have a case of either histoplasmosis or cancer, which he said is what the doctor said. GP said that no surgery or procedure was done because it cleared up on its own. This was also around the age of 6. GP has been hospitalized few times before. A few times for croup, and also for removal of his tonsils.

GP states his, MMR, Tetanus, and TB test are all up to date. He has allergies to rondec, morphine, iodine, and IVP dye. He does not drink alcohol, and about once every other day drinks caffeine. He smokes about a pack every two days. Before the ATVA he was not on any medications.

GP last had an eye and hearing exam approximately 2 years ago, a complete physical 6 months ago and does not perform any self-examination

Family history: See Appendix A

## Physical Assessment

### Neurological:

- CW is alert and oriented times three
- Speech is muffled with and without dentures
- Statements are appropriate
- Pupils are equal, round, and reactive to light and accommodation
- Can tell between a dull and sharp stimulus on his hands bilaterally
- Cannot distinguish between a dull and sharp stimulus on the bottom of his feet
- CW has pain when the arch of either foot is brushed slightly
- Strength of the shoulders, elbows, wrists are a 5+ bilaterally
- Strength of hips, knees, and ankles are a 3+ bilaterally.
- Complains of stiffness in his fingers and hands bilaterally in the morning.
- Complains of right knee pain when walking.

### Respiratory:

- Mucous membranes of the oral mucosa are pink and shiny
- Respirations are unlabored and regular. 24/min.
- CW's lung sounds are clear in all lobes bilaterally

### Cardiovascular:

- Heart sounds are strong and regular
- Apical pulse 72
- Bilaterally the radial, brachial pulses are a 2+ when lying supine
- Bilaterally the dorsal pedis pulses are a 1+ when lying supine

### Integumentary:

- Skin on hands, arms, head, neck, and thighs are dry, intact, and warm to the touch
- Skin on lower legs are dry and cool
- Trunk is also warm to the touch and dry with an abdominal hernia 2 inches below the sternum.
- There is a 4 inch diameter scar on each buttocks

### Gastrointestinal:

- Abdomen is round, soft, and nontender
- Tenderness over abdominal hernia
- CW has normal, active bowel activity in all 4 quadrants. Bowel sounds listened to right after breakfast
- Patient is able to feed himself

### Elimination

- Patient's urine is dark and yellow in the morning
- Small to extra large bowel movement with it usually being medium in the morning and second shift.
- BM is brown and soft

- CW wears a diaper during the day and holds the urinal around his penis at night

#### ADL

- CW requires assistance with moving to his wheelchair, ambulation, movement in bed, and grooming
- CW is able to feed himself if the meal is prepared for him
- CW is able to brush his gums

#### IADL

- CW is unable to prepare a meal on his own, shop, go anywhere outside, clean, do laundry, or manage his money
- CW is able to answer and dial the telephone and can take his medications
- CW is unable to remember which medication to take when and how many of each medication to take

#### Psychosocial

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GP was a healthy 19-year-old male who is now recovering from trauma from an ATVA. He was admitted to Miami Valley Hospital on 10-25-02 where he underwent a tracheotomy because of a compromised airway. He was admitted with the diagnosis of throat trauma. GP is recovering with great speed. On 11-5-02 he can speak with minimal pain and can produce an effective, strong cough. He is energetic and welcomes visitors and company. He understands why he is in the hospital and what needs to be accomplished before he is discharged. He has strong support from his mother, maternal grandmother and girlfriend. Patient appeared to be uncomfortable when asked about the health of his father and replied, "my dad is just an alcoholic, he is not in the picture." GP wants to leave but understands why he cannot.

## Pathophysiology of Diabetes Mellitus Type Two

“Pathophysiologic factors of diabetes mellitus type two include (1) decreased tissue responsiveness to insulin as a result of receptor or postreceptor defects; (2) overproduction of insulin early in the disease, but eventual decreased secretion of insulin from B-cell exhaustion; (3) abnormal hepatic glucose regulation” (Lewis 1370). There are many factors that may lead to the development of type two diabetes. The following are risk factors that can be controlled: sedentary lifestyle, metabolism, hypertension, and hyperglycemia (Miller 5). Some people may think diabetes is only caused by decrease insulin production for the amount of glucose the person eats. Though this may be a cause, another cause is an increase in insulin resistance. Factors that may influence greater insulin resistance are race, obesity, sedentary lifestyle, chronic diseases, and exposure to drugs such as glucocorticoids and diuretics (Miller 2). Preventing diabetes is an important part of elderly care. Complications that may arise in diabetes patient are the following: macroangiopathy, microangiopathy, congestive heart failure, peripheral vascular disease, retinopathy, nephropathy, and neuropathy are just a few. Some of the organs and tissues that do not require insulin may develop and increased intracellular glucose, which is metabolized to sorbitol (Robbins 467). Sorbitol is the reason of the decline of the organs and tissues (Robbins 467). This is backed by Miller who said the following

“Evidence supports the hypothesis that hyperglycemia per se, either directly or indirectly, is indeed related to the development and/or progression of diabetes-specific complications” (Miller 3).

Lisa O’Rourke also says the following in her study:

“There is reason to believe that reduction of blood glucose concentration to average levels below these glycemic thresholds will lead to reduced complications” (Miller 3).

Some complications that may be avoided by maintainment of blood glucose level are macrovascular disease, nephropathy, neuropathy, and visual impairment.

#### Macroangiopathy

“Macroangiopathy, or disease of large and medium-sized blood vessels, is essentially atherosclerosis and arteriosclerotic vascular disease characterized by a higher frequency and earlier onset than in the nondiabetic population” (Lewis 1398). The atherosclerotic plaque formation seems to be promoted by the altered lipid metabolism common to diabetes (Lewis 1398). Macroangiopathy may lead to cerebrovascular, cardiovascular, and peripheral vascular disease (Lewis 1398). Because of the complications with macroangiopathy, congestive heart failure may develop (Miller 2).

#### Congestive Heart Failure

#### Microangiopathy

“Microangiopathy is the result of thickening of the basement membranes in capillaries and arterioles, a highly characteristic concomitant of long-term diabetes mellitus” (Lewis 1399). The areas, which are most, affected are the following: eyes, kidneys, and the skin (Lewis 1399).

#### Neuropathy

“Mononeuropathic conditions are theorized to develop from microangiopathy, whereas the more diffuse neuropathic conditions are attributed to metabolic defects and the accumulation of by-products in the nerve tissue” (Lewis 1400). “The result is reduced nerve conduction and demyelination” (Lewis 1400). Symptoms of neuropathy include “pain described as burning, cramping, crushing, or tearing” (Lewis 1401).

#### Nephropathy

“The kidneys are the most severely damaged organ in diabetics, and renal failure is a major cause of mortality” (Robbins 468). The kidneys begin to fail and their glomerular filtration rate starts to decline eventually leading to acute renal failure and then chronic renal failure.

## Nursing Care Plan

### Nursing Diagnoses

1. Ineffective airway clearance related to presence of yellow, thick secretions in the lungs as manifested by scattered rhonchi.
2. Pain related to throat trauma as manifested by patient stating his neck hurts.
3. Altered nutrition related to altered diet as manifested loss of 20 pounds between the dates of 10-25-02 to 11-11-02
4. Risk of Aspiration related to pain of swallowing as manifested by distorted speech after swallowing a small sip of water and swallowing evaluation.

Nursing Interventions	Scientific Rationale and References
Nurse will assess signs and symptoms every hour and deliver pain medications prn.	Pain can cause decreased immune system, increased blood viscosity, decreased G.I., Depression and fluid retention (Jane Doorley, Pain lecture)
PCT, Nurse, and family will distract patient to relieve pain	Distraction is a technique used to decrease pain. "The reticular activating system inhibits painful stimuli if a person receives sufficient or excessive sensory input" (Potter and Perry 1307).
Nurse will educate patient about his pain	Being prepared for an experience will help the patient tolerate the pain ahead. (Jane Doorley, Pain lecture)




## Genogram

