N441 Care Plan

N441: Adult Health III

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Demographics (3 points)

Date of Admission 01/14/2024	**Client Initials** AR	**Age** 18 YO	**Gender** Male
Race/Ethnicity White/Caucasian	**Occupation** Unemployed	**Marital Status** Single	**Allergies** No Known Allergies
Code Status Full Code	**Height** 162.6 cm / 5’4”	**Weight** 59 kg / 130 lbs	

Medical History (5 Points)

Past Medical History:

There is no significant past medical history in the client’s file. However, Notes from the client's psychologist have more information about the client’s medical history. The client was diagnosed with Attention-Deficit/Hyperactivity Disorder (ADHD) on April 11, 2014, when the client was just nine years old. The psychologist’s notes also included a bipolar disorder diagnosis on March 4, 2020, when the client was just 14 years old, prompting the admission to The Pavilion Foundation, a Mental Health Clinic in Champaign, Illinois.

Past Surgical History:

The client has no past surgical history except the current admission’s skull fracture.

Family History:

The client’s mother is diagnosed with bipolar disorder. The client's father has no family history. Both parents were previously incarcerated, and later, both died of vehicular accidents in two separate events.

Social History (tobacco/alcohol/drugs including frequency, quantity, and duration of use):

The client is not a very good source of information since he does not want to wake up or talk to healthcare workers unless necessary. However, according to the record and medical

providers' notes, the client smokes tobacco products daily, uses marijuana daily, and consumes alcohol daily. Quantity or duration information was not obtained.

Assistive Devices:

The client does not use any assistive device. Since the client has a head trauma, help with ambulation is needed.

Living Situation:

According to the record, the client lives among eight people in a "hoarder" house, according to Emergency Medical Services, who picked up the client on Sunday, January 14.

Education Level:

According to the record, the client finished 11th grade only and is currently jobless.

Admission Assessment

Chief Complaint (2 points):

The chief complaint of the client is head trauma caused by a self-inflicted gunshot wound behind the head, and he was brought into the emergency department as a Trauma Red client.

History of Present Illness – OLD CARTS (10 points):

The client's head trauma of a self-inflicted gunshot wound started when his aunt died a few days ago. She was considered to be his source of support. The suicide ideation came about after the client and her underaged girlfriend argued on Sunday night. According to the interviews, the client had a gun from an unknown source. Per the client's recollection, he did not intend to hurt himself and was playing around with the gun. In the other parts of the report and interview, his brother heard a loud sound from the client's room and went to check on him. The client's brother saw the injured client on the floor bloody with the gun on his hand, prompting his brother to run outside his room and ask for help.

The client's head injury is located on the upper posterior parietal lobe and grazed the occipital and parietal lobe of the brain.

Primary Diagnosis

Primary Diagnosis on Admission (2 points): Head trauma due to a self-inflicted gunshot wound to the head.

Secondary Diagnosis (if applicable): Suicide ideation, cannabis use disorder, alcohol use disorder.

Pathophysiology of the Disease, APA format (20 points):

Head injury is a broad term that describes injuries to the scalp, skull, brain, and underlying tissue and blood vessels in the head (John Hopkins Medicine, 2024). It is also commonly referred to as brain injury or traumatic brain injury (TBI), depending on the extent of the head trauma (John Hopkins Medicine, 2024). Gunshot wound to the head is the leading cause of TBI in the USA (Than, 2023). Suicide-related gunshot wounds to the head are associated with a very high mortality rate and severe disability in the few who survive (Than, 2023).

Leading causes

Head trauma can be caused by motor vehicle-related injuries, falls, or assaults (Shaikh & Waseem, 2023). The client's cause of head injury is the self-inflicted gunshot wound to the back of the head.

Classifications

Primary head injury is an injury upon the initial impact that causes displacement of the brain due to direct impact, rapid acceleration-deceleration, or penetration (Shaikh & Waseem,

2023). Primary head injuries may cause contusion, hematoma, or diffuse axonal injury (Shaikh & Waseem, 2023).

Secondary head injuries are changes that occur after the initial insult (Shaikh & Waseem, 2023).

Types of Head Injury

A concussion is an injury to the head that may cause instant loss of awareness or alertness minutes or hours after the traumatic event (John Hopkins Medicine, 2024).

A skull fracture is a break in the skull bone (John Hopkins Medicine, 2024). Skull fractures are classified into four categories: linear, depressed, diastatic, or basilar (John Hopkins Medicine, 2024).

An intracranial hematoma is a blood clot in or around the brain (John Hopkins Medicine, 2024). There are four types, epidural, subdural, contusion or intracerebral, or diffuse axonal injury (John Hopkins Medicine, 2024).

Manifestations

Each person has varying degrees of symptoms depending on the severity of the head injury. Mild head injury manifestations include: raised, swelling bump or bruise, shallow scalp cut, headache, noise and light sensitivity, irritability, confusion, dizziness, balance problems, nausea, memory or concentration loss, change in sleep patterns, blurred vision, tired eyes, tinnitus, taste changes, fatigue or lethargy (John Hopkins Medicine, 2024). Moderate to severe head injury manifestations include loss of consciousness, severe headache, nausea and vomiting, short-term memory loss, slurred speech, walking difficulty, weakness, sweating, pallor, seizures, behavior changes, blood and body fluid drainage, misbalanced pupils, laceration, coma, or locked-in syndrome (John Hopkins Medicine, 2024).

Diagnosis

Diagnostic tests are done by drawing blood, x-rays, CT scans, EEGs, or MRIs (John Hopkins Medicine, 2024). The client had blood draws done as part of the Trauma Red protocol and emergency CT scan procedures to check the severity of the client's head trauma.

Treatment or Management

The most important goal for health providers is to prevent secondary brain injuries (Shaikh & Waseem, 2023). Treatment includes maintaining airway and ventilation, maintaining cerebral perfusion pressure, preventing secondary injuries, assessing for ICP, obtaining neurosurgical consult, and treating life-threatening injuries (Shaikh & Waseem, 2023). The client's treatment includes broad-spectrum antibiotics for infection and pain management medications.

Outcomes

Outcomes from head traumas depend on the extent of the injury. The client's recovery also depends on the type of brain injury and other medical problems that may present (John Hopkins Medicine, 2024). Focusing on the client's capabilities at home and in the community can positively affect the recovery. In the case of the client, the prognosis or outcome is high since the self-inflicted gunshot wound grazed his brain. Though the medical prognosis is high, the client's mental health should be assessed, evaluated, and watched carefully as suicide ideation is high.

Pathophysiology References (2) (APA):

John Hopkins Medicine. (2024). *Head injury*. Johns Hopkins Medicine. Retrieved January 18, 2024, from https://www.hopkinsmedicine.org/health/conditions-and-diseases/head-injury

Shaikh, F., & Waseem, M. (2023, May 8). *Head trauma - StatPearls*. NCBI. Retrieved January 18, 2024, from https://www.ncbi.nlm.nih.gov/books/NBK430854/

Than, K. D. (2023). *Neurosurgical treatment for gunshot wound head trauma*. American Association of Neurological Surgeons. Retrieved January 18, 2024, from https://www.aans.org/en/Patients/Neurosurgical-Conditions-and-Treatments/Gunshot-Wound-Head-Trauma

Laboratory Data (15 points)

CBC Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab	Normal Range	Admission Value (01/14)	Today's Value (01/16)	Reason for Abnormal Value
RBC	4.1 – 5.7 10^6 cells/µL	**4.72 10^6 cells/µL**	**4.75 10^6 cells/µL**	**The client's lab result is within normal range.**
Hgb	12.0 - 18.0 g/dL	**14.0 g/dL**	**14.2 g/dL**	**The client's lab result is within normal range.**
Hct	37.0% - 51.0%	**41.5%**	**41.5%**	**The client's lab result is within normal range.**
Platelets	140 – 400 x 10^9/L	**266 x 10^9/L**	**226 x 10^9/L**	**The client's lab result is within normal range.**
WBC	4.00 - 11.00 x 10^3/ µL	**7.64 x 10^3/ µL**	**14.63 x 10^3/ µL**	**The increase in the WBC signifies that there is an infection in the client's head trauma (Pagana et al., 2021, p. 492).**
Neutrophils	47% - 73%	**-**	**-**	**The provider did not order the test for the client.**
Lymphocytes	19% - 49%	**28.4%**	**20.8%**	**The client's lab result is within normal range.**
Monocytes	3% - 13%	**8.5%**	**15.0%**	**The increase in monocytes signifies that the client might not only have a bacterial infection but also a viral infection (Pagana et al., 2021, p. 494).**
Eosinophils	0% - 8%	**2.4%**	**0.5%**	**The client's lab result is within**

				normal range.
Bands	0% - 3%	-	-	**The provider did not order the test for the client.**

Chemistry Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab	Normal Range	Admission Value (01/14)	Today's Value (01/16)	Reason For Abnormal
Na-	135 – 145 mmol/L	**144 mmol/L**	**140 mmol/L**	**The client's lab result is within normal range.**
K+	3.5 - 5.1 mmol/L	**3.1 mmol/L**	**3.9 mmol/L**	**The client's body's response to the trauma is mediated by aldosterone, which increases potassium excretion (Pagana et al., 2021, p. 390).**
Cl-	98 – 107 mmol/L	**110 mmol/L**	**104 mmol/L**	**The client's chloride is high due to the potential loss of blood from the head trauma, causing metabolic acidosis (Pagana et al., 2021, p. 151).**
CO_2	22 – 31 mmol/L	**21 mmol/L**	**24 mmol/L**	**The client's CO_2 level is low following the trauma, potentially from blood loss, causing metabolic acidosis (Pagana et al., 2021, p. 138).**
Glucose	74 – 100 mg/dL	**127 mg/dL**	**106 mg/dL**	**The daily consumption of alcohol by the client causes glycogenolysis, which increases the blood sugar in the body system (Pagana et al., 2021, p. 242).**
BUN	8 – 26 mg/dL	**10 mg/dL**	**8 mg/dL**	**The client's lab result is within normal range.**
Creatinine	0.7 - 1.3 mg/dL	**0.82 mg/dL**	**0.86 mg/dL**	**The client's lab result is within normal range.**
Albumin	3.5 - 5.0 g/dL	**4.2 g/dL**	-	**The client's lab result is within normal range.**
Calcium	8.9 - 10.6 mg/dL	**8.9 mg/dL**	**9.5 mg/dL**	**The client's lab result is within normal range.**
Magnesium	1.6 - 2.6 mg/dL	**2.0 mg/dL**	-	**The client's lab result is within normal range.**
Phosphate	2.8 - 4.5 mg/dL	-	-	**The provider did not order the test for the client.**

Bilirubin	0.2 – 1.2 mg/dL	**0.2 mg/dL**	-	**The client's lab result is within normal range.**
Alk Phos	40 – 150 U/L	**134 U/L**	-	**The client's lab result is within normal range.**
AST	5 – 34 U/L	**20 U/L**	-	**The client's lab result is within normal range.**
ALT	0 – 55 U/L	**19 U/L**	-	**The client's lab result is within normal range.**
Amylase	29 – 103 U/L	-	-	**The provider did not order the test for the client.**
Lipase	11 – 82 U/L	-	-	**The provider did not order the test for the client.**
Lactic Acid	0.5 - 2.0 mmol/L	-	-	**The provider did not order the test for the client.**
Troponin	0.0 – 0.4 mg/mL	-	-	**The provider did not order the test for the client.**
CK-MB	30-223 U/L	-	-	**The provider did not order the test for the client.**
Total CK	3% - 5%	-	-	**The provider did not order the test for the client.**

Other Tests Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab Test	Normal Range	Value on Admission (01/14)	Today's Value (01/16)	Reason for Abnormal
INR	0.9 - 1.1 Seconds	**1.0 Seconds**	-	**The client's lab result is within normal range.**
PT	11.0 - 13.8 Seconds	**13.4 Seconds**	-	**The client's lab result is within normal range.**
PTT	22.4 – 35.9 Seconds	**24.4 Seconds**	-	**The client's lab result is within normal range.**
D-Dimer	< 0.5 µg/mL	-	-	**The provider did not order the test for the client.**
BNP	8 – 26 mg/dL	-	-	**The provider did not order the test for the client.**
HDL	> 60 mg/dL	-	-	**The provider did not order the test for the client.**
LDL	< 100 mg/dL	-	-	**The provider did not order the test for the client.**
Cholesterol	< 200	-	-	**The provider did not order the**

	mg/dL			**test for the client.**
Triglycerides	< 150 mg/dL	-	-	**The provider did not order the test for the client.**
Hgb A1c	4.0% - 6.0%	-	-	**The provider did not order the test for the client.**
TSH	0.35 - 4.94 µIU/mL	-	-	**The provider did not order the test for the client.**
Serum Alcohol Blood EtOH	<0.08 g/dL	**0.182 g/dL**	-	**The client was intoxicated when the self-inflicted gunshot to the head happened, according to the report, as proven by the blood serum alcohol lab draw (Pagana et al., 2021, p. 221).**

Urinalysis Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Lab Test	Normal Range	Value on Admission (01/14)	Today's Value (01/16)	Reason for Abnormal
Color & Clarity	Clear - Yellow	**Clear – Yellow**	-	**The client's lab result is within normal range.**
pH	5.0 - 9.0	**5.5**	-	**The client's lab result is within normal range.**
Specific Gravity	1.003 - 1.035	**1.006**	-	**The client's lab result is within normal range.**
Glucose	Negative	**Negative**	-	**The client's lab result is within normal range.**
Protein	Negative	**Negative**	-	**The client's lab result is within normal range.**
Ketones	Negative	**Negative**	-	**The client's lab result is within normal range.**
WBC	0 - 25 /µl	**2 /µl**	-	**The client's lab result is within normal range.**
RBC	0 - 20 /µl	**4 /µl**	-	**The client's lab result is within normal range.**
Leukoesterase	Negative	**Negative**		**The client's lab result is within normal range.**

Arterial Blood Gas Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Test	Normal Range	Value on Admission (01/14)	Today's Value (01/16)	Explanation of Findings
pH	7.35 – 7.45	-	-	**The provider did not order the test for the client.**
PaO2	75 – 100 mmHg	-	-	**The provider did not order the test for the client.**
PaCO2	35 – 45 mm/Hg	-	-	**The provider did not order the test for the client.**
HCO3	22 – 26 mEq/L	-	-	**The provider did not order the test for the client.**
SaO2	94% - 100%	-	-	**The provider did not order the test for the client.**

Cultures Highlight All Abnormal Labs—Explanations must be in complete sentences and contain in-text citations in APA format.

Test	Normal Range	Value on Admission (01/14)	Today's Value (01/16)	Explanation of Findings
Urine Culture	Negative	-	-	**The provider did not order the test for the client.**
Blood Culture	Negative	-	-	**The provider did not order the test for the client.**
Sputum Culture	Negative	-	-	**The provider did not order the test for the client.**
Stool Culture	Negative	-	-	**The provider did not order the test for the client.**

Lab Correlations Reference (1) (APA):

Pagana, T. J., Pagana, T. N., & Pagana, K. D. (2021). *Mosby's® Manual of diagnostic and laboratory tests* (7th ed.). Elsevier - Health Sciences Division

Diagnostic Imaging

All Other Diagnostic Tests (5 points):

CT Brain Venogram, CT Brain without Contrast, and CT Stealth

1. Redemonstration of comminuted depressed Right Paramedian Parietal Occipital Calvarial Fracture with underlying intraparenchymal hematoma and adjacent rind of vasogenic edema. Interval placement of overlying skin staples with associated extracranial soft tissue swelling.
2. The dural venous sinuses appear patent without evidence of thrombosis. Asymmetric diminutive likely congenital right transverse and sigmoid sinuses.

Diagnostic Test Correlation (5 points):

Computed Tomography, Head or the CT Scan of the head, is a computerized analysis of multiple tomographic X-ray images taken of the brain tissue in different layers, providing a three-dimensional view of the cranial contents (Pagana et al., 2021, p. 1003). The CT scan of the head is used for the client to evaluate the intracranial hemorrhage or hematoma obtained from the gun shot wound. Although magnetic resonance imaging or MRI of the brain is the most common brain imaging, the CT scan is still preferable in the initial trauma evaluation and pinpointing the location and extent of the subarachnoid bleeding (Pagana et al., 2021, p. 1003). There are three kinds of procedures used with the client, the CT scan with contrast, CT scan without contrast and the CT scan Stealth.

Diagnostic Test Reference (1) (APA):

Pagana, T. J., Pagana, T. N., & Pagana, K. D. (2021). *Mosby's® Manual of diagnostic and laboratory tests* (7th ed.). Elsevier - Health Sciences Division

Current Medications (10 points, 1 point per completed med)
10 <u>different</u> medications must be completed

Home Medications (5 required) The following three medications are on the client's record prescribed by the psychologist, but no known record of medication compliance proves that the client is taking these medications.

Generic	Quetiapine	Methylphenidate	Guanfacine
Brand	**Seroquel**	**Daytrana**	**Intuniv**
Dose	100 mg	54 mg	1 mg
Frequency	At bedtime	BID	BID
Route	PO	PO	PO
Pharmacologic Classification	Mood stabilizers (Vallerand, 2023)	ADHD Adjunct (Vallerand, 2023)	Alpha Adrenergic Agonists (Vallerand, 2023)
Therapeutic Classification	Antipsychotics (Vallerand, 2023)	Central Nervous System Stimulants (Vallerand, 2023)	Agents for Attention Deficit Disorder (Vallerand, 2023)
Mechanism of Action	Serves as an antagonist of dopamine and serotonin. It also antagonizes histamine H_1 receptors and alpha$_1$-adrenergic receptors. (Vallerand, 2023)	Produces CNS and respiratory stimulation with weak sympathomimetic activity. (Vallerand, 2023)	Stimulates CNS alpha2-adrenergic receptors, decreasing sympathetic outflow to the heart, kidneys, and blood vessels. (Vallerand, 2023)
Reason Client Taking	The client was diagnosed with Bipolar Disorder but record show the client is not med compliant.	The client was diagnosed with ADHD but records show the client is not med compliant.	The client was diagnosed with ADHD but records show the client is not med compliant.
Contraindications (2)	• Increases the risk for suicide ideation early in the treatment. • History of suicide attempts. (Vallerand, 2023)	• Growth suppression in children with long-term use. • Use cautiously if client is hypertensive. (Vallerand, 2023)	• Severe CAD or recent MI. • Severe hepatic impairment. (Vallerand, 2023)
Side Effects/Adverse Reactions (2)	• Increased blood pressure. • Stevens-Johnson Syndrome (SJS). (Vallerand, 2023)	• Rhabdomyolysis. • Hyperactivity, insomnia, restlessness, tremor, akathisia, behavioral disturbances, dizziness, dyskinesia, hallucinations, H/A, irritability, mania, tics. (Vallerand, 2023)	• Bradycardia, chest pain, hypotension, palpitations, rebound hypertension, syncope. • Erectile dysfunction. (Vallerand, 2023)
Nursing Considerations (2)	• Monitor for the development of neuroleptic malignant syndrome. • Monitor for signs of pancreatitis. (Vallerand, 2023)	• Monitor BP and respiration before administering and periodically during therapy. • May produce a false sense of euphoria and well-being. (Vallerand, 2023)	• Assess attention span, impulse control, and interactions with others. • Monitor BP and HR prior to starting therapy, following dose increases, and periodically during therapy. (Vallerand, 2023)

Key Nursing Assessment(s)/Lab (s) Prior to Administration	• Monitor mental status (mood, orientation, behavior) before and during therapy. (Vallerand, 2023)	• Administer immediate and sustained-release tablets on an empty stomach. (Vallerand, 2023)	• May increase temporary, clinically insignificant increase in plasma growth hormone levels. (Vallerand, 2023)
Client Teaching Needs (2)	• Instruct the client to take medication as directed. Report to the provider if the clients have thoughts about suicide, dying, or suicide ideation. • Advise clients to change position slowly to avoid orthostatic hypotension. (Vallerand, 2023)	• Instruct the client to take medication as directed at the same time each day. • Advise the client to avoid using caffeine-containing beverages concurrently with the medication. (Vallerand, 2023)	• Instruct the client to take medication and not skip or double up on missed doses. • Instruct client to notify health care professional if S/S of liver injury. (Vallerand, 2023)

Hospital Medications (5 required) The client has a long list of hospital medications, but this student nurse picked out the main pharmacologic that pertains to the client's primary diagnosis and injury.

Generic	Hydromorphone Injection	Vancomycin	Piperacillin / Tazobactam
Brand	**Dilaudid**	**Vancocin**	**Zosyn**
Dose	0.5 mg	1500 mg	45 mg
Frequency	Q2Hrs PRN	Q12Hrs	Q8Hrs
Route	IVP	IVPB	IVPB
Pharmacologic Classification	Opioid analgesic (Vallerand, 2023)	Antibiotics (Vallerand, 2023)	Extended Spectrum Penicillins (Vallerand, 2023)
Therapeutic Classification	Opioid Analgesics (Vallerand, 2023)	Anti-infectives (Vallerand, 2023)	Anti-infectives (Vallerand, 2023)
Mechanism of Action	Binds to opiate receptors in the CNS. (Vallerand, 2023)	Binds to bacterial cell walls, resulting in cell death. (Vallerand, 2023)	Binds to bacterial cell walls, resulting in cell death. (Vallerand, 2023)
Reason Client Taking	To decrease moderate to severe pain that the client experiences from the head trauma.	The client is susceptible to infection after the head trauma and procedures.	The client is susceptible to infection after the head trauma and procedures.
Contraindications (2)	• Use cautiously in head trauma, which could cause increase ICP. • Moderate hepatic impairment. (Vallerand, 2023)	• Use cautiously in clients with renal impairment. • Use cautiously in intestinal obstruction or inflammation. (Vallerand, 2023)	• Use cautiously in clients with renal impairment. • Use cautiously in clients with seizure disorders. (Vallerand, 2023)
Side Effects /Adverse Reactions (2)	• CV: Hypotension, bradycardia • GI: Constipation (Vallerand, 2023)	• Stevens-Johnson Syndrome (SJS). • Ototoxicity. (Vallerand, 2023)	• Stevens-Johnson Syndrome (SJS). • Bleeding, leukopenia, neutropenia, thrombocytopenia.

			(Vallerand, 2023)
Nursing Considerations (2)	• Assess LOC, BP, PR, and RR before and periodically during administration. • Assess risk for opioid addiction. (Vallerand, 2023)	• Monitor BP, ECG, PR, and RR before dosing. • Assess for fall risk. (Vallerand, 2023)	• Obtain specimens for culture and sensitivity prior to initiating therapy. • Monitor bowel function. (Vallerand, 2023)
Key Nursing Assessment(s)/Lab (s) Prior to Administration	• May cause increase in plasma amylase and lipase levels. (Vallerand, 2023)	• Monitor for casts, albumin, or cells in the urine or decreased specific gravity, CBC and renal function periodically during therapy. (Vallerand, 2023)	• Evaluate renal and hepatic function, CBC, serum K+, and coagulation prior to and routinely during therapy. (Vallerand, 2023)
Client Teaching Needs (2)	• Educate the client and caregivers on how to recognize respiratory depression and when to get emergency medical help. • Advise the client that hydromorphone is a drug with known abuse potential. (Vallerand, 2023)	• Observe the client for S/S of anaphylaxis. D/C and notify the provider immediately. • Monitor the client for infections at the beginning and throughout the therapy. (Vallerand, 2023)	• Advise clients to report rash and signs of superinfection. • Advise clients to notify the provider if fever and diarrhea occur. (Vallerand, 2023)

Generic	Fentanyl	Oxycodone
Brand	**Fentanyl**	**Oxaydo**
Dose	50 mcg	5 mg
Frequency	Q2Hrs	Q4Hrs PRN
Route	IVP	PO
Pharmacologic Classification	Opioid Agonist (Vallerand, 2023)	Opioid Agonist (Vallerand, 2023)
Therapeutic Classification	Opioid Analgesics (Vallerand, 2023)	Opioid Analgesics (Vallerand, 2023)
Mechanism of Action	Binds to opiate receptors in the CNS, altering the response to and perception of pain. (Vallerand, 2023)	Binds to opiate receptors in the CNS. Alters the perception of and response to painful stimuli while producing generalized CNS depression. (Vallerand, 2023)
Reason Client Taking	To decrease moderate to severe pain that the client experiences from the head trauma.	To decrease moderate to severe pain that the client experiences from the head trauma.
Contraindications (2)	• Severe renal and hepatic impairment. • Use cautiously in clients with head trauma for an increase in ICP. (Vallerand, 2023)	• Use cautiously in clients with alcohol use disorder. • Use cautiously in clients with head trauma for an increase in ICP. (Vallerand, 2023)
Side Effects /Adverse Reactions (2)	• Respiratory depression • Laryngospasm (Vallerand, 2023)	• Respiratory depression • Orthostatic hypotension (Vallerand, 2023)

Nursing Considerations (2)	• Assess type, location, and intensity of pain prior to and 5 minutes following IV administration. • Monitor RR and BP frequently during therapy. (Vallerand, 2023)	• Assess BP, PR, and RR before and periodically during administration. • Assess risk for opioid addiction, abuse, or misuse prior to administration. (Vallerand, 2023)
Key Nursing Assessment(s)/Lab(s) Prior to Administration	• May cause an increase in serum amylase and lipase concentrations. (Vallerand, 2023)	• May increase serum amylase and lipase levels. (Vallerand, 2023)
Client Teaching Needs (2)	• Instruct the client on how and when to ask for pain medication. • Medication causes dizziness and drowsiness. Advise the client to call for assistance during ambulation. (Vallerand, 2023)	• High Alert for accidental overdose of opioid analgesics resulting in fatalities. • Do not confuse short-acting oxycodone with long-acting oxycontin. (Vallerand, 2023)

Medications Reference (1) (APA):

Vallerand, A. H., et al., (2022). *Davis drug guide for nurses* (Version 6.4.0.539). [Mobile App]. App Store

Assessment

Physical Exam (18 points) – HIGHLIGHT ALL PERTINENT ABNORMAL FINDINGS

GENERAL: **Alertness: Noted** **Orientation: Noted** **Distress: Client in Pain** **Overall appearance: Sleepy and Tired**	ALERTNESS & ORIENTATION: The client is alert and oriented to person, place, time, and situation. APPEARANCE: The client is not groomed and is not wearing the top but just the bottom paper hospital scrubs. DISTRESS: The client appears to be in pain from the head trauma injury.
INTEGUMENTARY: **Skin color: light fair skin** **Character: dry and intact** **Temperature: warm** **Turgor: normal** **Rashes: none** **Bruises: none** **Wounds: posterior head** **Braden Score: 21** **Drains present: Y☐ N ☒** **Type:**	HAIR: Hair is evenly and finely distributed. SKIN COLOR: The skin is usual for ethnicity, light fair color. CHARACTER: Skin is dry and intact, with no rashes, lesions, or bruising. The client has a wound at the posterior of the head from the head trauma. TEMPERATURE: Skin is warm and dry upon palpation. TURGOR: The client's skin has normal mobility. CAPILLARY REFILL: The client's capillary refill on the fingers are <3 bilaterally. Capillary refills on the toes are <3 seconds bilaterally. BRADEN SCORE: 21
HEENT: **Head/Neck: noted** **Ears: noted** **Eyes: noted** **Nose: noted** **Teeth: noted**	HEAD: Symmetrical and round. The hair is straight dark brown. NECK: Symmetrical, trachea is midline without deviation, the thyroid gland does not deviate, and no noted nodules. Bilateral carotid pulses are palpable +2. No lymphadenopathy in the head or neck was noted. EYES: Bilateral scleras are white, bilateral cornea clear, bilateral conjunctivas are light pink, no visible drainage from both eyes, bilateral eyelids are moist and pink without lesions or discharge. PERRLA bilaterally. EOM intact bilaterally. EARS: Bilateral auricles show no visible lesions, lumps, nor deformities MOUTH/TEETH: Pink and moist gums with complete dentition. NOSE: Nose is midline with no signs of lumps, rashes, lesions, or deformities.
CARDIOVASCULAR: **Heart sounds: noted** **S1, S2, S3, S4, murmur etc. none noted**	HEART SOUNDS: Clear S1 & S2 without murmurs, gallops or rubs. PERIPHERAL PULSES: Peripheral pulses 3+

Cardiac rhythm (if applicable): normal **Peripheral Pulses: noted** **Capillary refill: <3** **Neck Vein Distention: Y ☐ N ☒** **Edema Y ☐ N ☒** **Location of Edema:**	bilaterally. CAPILLARY REFILLS: Capillary refills on the fingers & toes are <3 bilaterally.
RESPIRATORY: **Accessory muscle use: Y☐ N ☒** **Breath Sounds: Location, character** **ET Tube: none** **Size of tube: N/A** **Placement (cm to lip): N/A** **Respiration rate: 17** **FiO2: N/A** **Total volume (TV): N/A** **PEEP: N/A** **VAP prevention measures: N/A**	RESPIRATIONS: Normal rate and pattern of respirations. Respirations are symmetrical. BREATH SOUNDS: Lung sounds are clear without rubs bilaterally.
GASTROINTESTINAL: **Diet at home: regular** **Current Diet regular** **Height: 162.6 cm / 5'4"** **Weight: 59 kg / 130 lbs** **Auscultation Bowel sounds: normoactive** **Last BM: Sunday, January 14, 2024** **Palpation: Pain, Mass etc.: none** **Inspection: good** **Distention: none** **Incisions: none** **Scars: none** **Drains: none** **Wounds: none** **Ostomy: Y ☐ N ☒** **Nasogastric: Y ☐ N ☒** **Size: N/A** **Feeding tubes/PEG tube Y ☐ N ☒** **Type: N/A**	BOWEL SOUNDS: Bowel sounds were normoactive upon auscultation on all four abdomen quadrants. The abdomen is dry and soft. No organomegaly was noted on all four quadrants. The abdomen shows no rashes, lesions, lumps, or deformities.
GENITOURINARY: **Color: clear/yellow** **Character: clear/yellow** **Quantity of urine: normal** **Pain with urination: Y ☐ N ☒** **Dialysis: Y ☐ N ☒** **Inspection of genitals: clean and dry** **Catheter: Y ☐ N ☒** **Type: N/A**	COLOR: Clear/Yellow CHARACTERISTIC: Clear GENITALS: Clean and dry.

Size: N/A **CAUTI prevention measures:**	
MUSCULOSKELETAL: **Neurovascular status: capillary refills <3 bilaterally** **ROM: active** **Supportive devices: Ambulatory with help** **Strength: strong** **ADL Assistance: Y☐ N ☒** **Fall Risk: Y ☒ N☐** **Fall Score: 14** **Activity/Mobility Status: Help with ambulation** **Independent (up ad lib)** ☐ **Needs assistance with equipment** ☐ **Needs support to stand and walk** ☒	NEUROVASCULAR: Capillary refills on the fingers & toes are <3 bilaterally. Skin is warm, dry, and scaly. ROM: all extremities have passive ROM. STRENGTH: Hand grips, pedal pushes, and pedal pulls showed no weakness 5/5 bilaterally. FALL SCORE: 14: The client has a head trauma and could cause increased ICP. The client needs help in ambulation.
NEUROLOGICAL: **MAEW: Y ☒ N☐** **PERLA: Y ☒ N☐** **Strength Equal: Y ☒ N ☐ if no -** **Legs ☐ Arms ☐ Both ☐** **Orientation: noted** **Mental Status: Suicide Ideation** **Speech: clear** **Sensory: normal** **LOC: alert**	ORIENTATION: The client is alert and oriented to person, place, time, and situation. COGNITION/MENTAL: The client's cognition is normal SPEECH: The client's speech is clear LOC: The client is alert and awake to answer questions appropriately.
PSYCHOSOCIAL/CULTURAL: **Coping method(s): maternal grandmother, girlfriend, brother** **Developmental level: Identity vs Confusion** **Religion & what it means to pt.: no religion** **Personal/Family Data (Think about home environment, family structure, and available family support): Lives with 8 people in a "hoarder" house.**	COPING METHODS: The client does not practice any religion. Lives with 8 other people in a "hoarder" house. Main source of social support is the maternal grandmother, girlfriend and brother. DEVELOPMENTAL LEVEL: The client did not finish high school and finished 11th grade only.

Vital Signs, 2 sets (5 points) – HIGHLIGHT ALL ABNORMAL VITAL SIGNS

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
0800	46↓	120/67	17	98.7°F Oral	97% Room Air
1000	49↓	108/58	17		96% Room Air
1200	51	107/59	17	98.5°F Axillary	96% Room Air

Vital Sign Trends/Correlation: The client's low Pulse Rate may be caused by age and the pain medications administered.

Pain Assessment, 2 sets (2 points)

Time	Scale	Location	Severity	Characteristics	Interventions
0730	Number	Posterior Head	10	Throbbing, Stabbing	Oxycodone
1030	Number	Posterior Head	10	Throbbing, Stabbing	Tylenol (refused by the client)

IV Assessment (2 Points)

IV Assessment	Fluid Type/Rate or Saline Lock
Size of IV: 16G & 18G **Location of IV: Ant Lt Lower Arm & Ant Rt AC** **Date on IV: Both at 01/14/2024** **Patency of IV: patent and being used** **Signs of erythema, drainage, etc.: none** **IV dressing assessment: dry and intact**	0.9% NaCl infusing at 75mL/hour on the Lt lower arm Vancomycin started at 0830 on Rt AC
Other Lines (PICC, Port, central line, etc.)	None
Type: **Size:** **Location:** **Date of insertion:** **Patency:** **Signs of erythema, drainage, etc.:** **Dressing assessment:** **Date on dressing:** **CUROS caps in place: Y ☐ N ☐** **CLABSI prevention measures:**	N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A

Intake and Output (2 points)

Intake (in mL)	Output (in mL)
1,000 mL 0.9% NaCl	The client has not voided since the morning of 01/16/2024.
50 mL water (sips with meds)	

Nursing Care

Summary of Care (2 points)

Overview of care: The Student Nurse arrived at the unit with the clinical instructor and three other nursing students at 0645. The group entered the unit's lounge to leave jackets and bags first. The group proceeded to meet the unit's dayshift charge nurse, Shane. The clinical instructor introduced the student nurses to Shane. Shane mentioned room numbers and the nurses in charge of the patients. This student nurse picked out Room 9 to be managed by RN Samina Pague. This student nurse went to a computer near the room and started to log into the system. The Carle Epic did not work on the students' login. The clinical instructor was informed, prompting her to email the Lakeview College of Nursing dean. Room 9's RN Samina arrived around 0700 and was not initially happy to have a student following her. This student nurse knew the staff RN personally and was welcomed enthusiastically by the staff RN. Samina explained why she did not want any student nurses at first but later admitted that she was happy to precept this student nurse that day. Upon receiving a report from the night shift staff nurse, Linda, Samina, and this student nurse came into the client's room and did a first assessment. Samina was questioning the Q1 hour neuro assessment, while the order on the client's chart only calls for Q2 hours neuro assessment. This student nurse updated the board and assisted the staff RN with administering pain medication as the client was complaining of pain at the trauma site. This student nurse also assisted in helping other staff nurses by answering call lights and new

admissions and preparing the room for new admissions. This student nurse assisted staff RN Samina with her other client on the floor in admission, hygiene care, and administering medications.

Procedures/testing done: The client had Q2 hours of neuro checks and continuous vital sign monitoring. A sitter was inside the client's room as part of the suicide protocol.

Complaints/Issues: The client complained of pain 10/10 on his posterior head, where the self-inflicted gunshot wound is.

Vital signs (stable/unstable): The client's vital signs were generally stable except for the pulse rate which could have been affected by the pain medications that the client is given.

Tolerating diet, activity, etc.: The client was informed by the trauma provider that he could eat anything, a regular diet, he wanted, and it would not affect his condition. The client said he does not have the appetite to eat.

Physician notifications: During the shift, the team of neurologists and trauma providers visited the client. The neurologist ordered the downgrade of the client to advanced care and switched the Q1-hour neuro checks to Q2 hours. They also ordered that all the antibiotics be continued for two more days. The trauma team also evaluated the client and ordered the downgrade of the client to advanced care the next day.

Future plans for the client: The client's discharge plan is to be admitted into a mental health facility or psychiatric hospital to deal with the root cause of the self-inflicted gunshot wound that caused the head trauma.

Discharge Planning (2 points)

Discharge location: The discharge plan for the client is to be admitted into a mental health facility or psychiatric hospital.

Home health needs (if applicable): The client should learn coping skills and needs a solid support system to improve mental health.

Equipment needs (if applicable): The client is young and will recover from the head injury, so no equipment is needed at home.

Follow-up plan: The client needs to follow up with his psychologist and psychiatrist to deal with his mental health condition. He also needs to attend AA meetings to correct his cannabis use disorder and alcohol use disorder.

Education needs: The client should continue getting his GED to get a job and help with his mental health.

Nursing Diagnosis (15 points)
Must be NANDA approved nursing diagnosis and listed in order of priority
(Please see next page)

Nursing Diagnosis ● Include full nursing diagnosis with "related to" and "as evidenced by" components ● Listed in order by priority – highest priority to lowest priority pertinent to this client	**Rationale** ● Explain why the nursing diagnosis was chosen	**Interventions (2 per dx)**	**Outcome Goal (1 per dx)**	**Evaluation** ● How did the client/family respond to the nurse's actions? ● Client response, status of goals and outcomes, modifications to plan.
1. Post-trauma syndrome related to the self-inflicted gunshot wound and head trauma to the back of the head as evidenced by the posterior skull fracture and occipital and parietal brain injury.	The client sustained a traumatic and life-threatening experience or event that could potentially cause post-traumatic stress disorder.	1. Assess for statements of guilt or self-blame for the traumatic event or how the survival affects the client. 2. Assess for the presence and degree of suicide ideation, plans, means, attempts, and the ability to come into a contract for safety with the mental health providers. (Gulanick & Myers, 2021, p. 145)	The client will be able to identify the feelings of guilt and suicidal ideation, learn how to call for help and learn multiple positive coping skills. (Gulanick & Myers, 2021, p.145)	The client's main source (his family) of mental health support will be understanding the traumatic experience and event that the client went through and will be able to help the client learn positive coping skills and when to call for help and resources.
2. Ineffective coping related to cannabis use disorder and alcohol use disorder diagnosis by the client's psychologist as evidenced by the present self-inflicted gunshot wound to the back of the head, causing head trauma and possible traumatic brain injury.	The client resorts to cannabis and alcohol use or consumption, which are considered negative coping strategies against life's stressors when there are positive coping strategies that do not have any negative effects on health.	1. Assess the client's prior efforts to manage coping mechanisms, including decision-making and problem-solving. 2. Teach the client the use of relaxation, exercise, and diversional activities as positive methods to cope with stress. (Gulanick & Myers, 2021, p. 45)	The client uses available resources and support systems. The client will also describe and initiate effective coping strategies and will be able to describe positive results from new coping behaviors. (Gulanick & Myers, 2021, p. 44)	The client and the client's family will be able to recognize resources and support systems whenever the client needs to deal with life's stressors.
3.Risk for seizure activity related to the self-inflicted gunshot wound and head trauma to the back of the head as evidenced by the posterior skull fracture and occipital and parietal brain injury.	The client's head injury or trauma affected the brain. The possibility of future seizures is inevitable.	1. Explain and teach the client and the client's family how to recognize seizures. 2. Educate the client and the client's family on what to do during a seizure (place the client on the floor lying on the side, removing furniture and other harmful objects, not restraining the client, loosen clothing, do not place anything inside the client's mouth) and when to call emergency services. (Gulanick & Myers, 2021, p. 510)	The client signifies understanding the signs and symptoms of seizures and what to do when seizures happen. (Gulanick & Myers, 2021, p. 510)	The client and the client's family will be able to recognize seizure manifestations and deal with seizure precautions while the client is at home.

Nursing Diagnosis ● Include full nursing diagnosis with "related to" and "as evidenced by" components ● Listed in order by priority – highest priority to lowest priority pertinent to this client	**Rationale** • Explain why the nursing diagnosis was chosen	**Interventions (2 per dx)**	**Outcome Goal (1 per dx)**	**Evaluation** ● How did the client/family respond to the nurse's actions? ● Client response, status of goals and outcomes, modifications to plan.
4. Impaired mental health maintenance related to the non-adherence to medical treatment and compliance of the client as evidenced by non-existing proof of home medications and mental health visits with a psychologist.	The client's mental health diagnosis happened when the client was a juvenile. Now that the client is an adult, there is no record of any mental health management. Medication compliance is key to the client's mental health management outcome.	1. Assess the client's knowledge of proper health maintenance (regularly scheduled visits, medication adherence, etc.) 2. Provide the client with rationales for the importance of smoking cessation, cessation of alcohol abuse, cessation of substance use abuse, stress management, and strict medication adherence. (Gulanick & Myers, 2021, p. 63)	The client should demonstrate positive health maintenance behaviors by keeping scheduled visits, participating in cessation and substance abuse programs, improving the home environment, and following the treatment regimen, particularly medication adherence. (Gulanick & Myers, 2021, p. 61)	The client and the client's family should be able to see a positive change in the client's mental health status in a few months after strictly following the planned treatment regimen implemented for the benefit of the client.
5. Risk of infection related to the skull fracture and brain injury as evidenced by the computed tomography result of the client.	The client's head trauma is considered a major injury that involves an open wound caused by a bullet or a foreign body penetrating the skull and the brain. The potential risk of systemic infection is relatively high.	1. Monitor the wound for signs of infection (redness, swelling, increased pain, purulent drainage, elevated temperature). 2. Teach the client how to maintain an aseptic technique in changing the dressing and wound care. (Gulanick & Myers, 2021, p. 78)	The client will remain free of infection, as evidenced by the expected way the wound heals (no swelling, redness, pain, drainage, or temperature change). (Gulanick & Myers, 2021, p. 77)	The client and the client's family should be able to tell if the wound is infected by knowing the signs of an infection and when to call the provider if an infection is detected.

Other References (APA):

Gulanick, M., & Myers, J. L. (2021). *Nursing care plans: Diagnoses, interventions, and outcomes* (J. L. Myers & M. Gulanick, Eds.; 10th ed.). Elsevier

Concept Map (20 Points): (Please see next page.)

SUBJECTIVE DATA

"My aunt died, who was my support person, and my girlfriend and I had an argument."

"My head hurts so bad! Could you take the bandage off my head?"

"My pain is 10! I need something to make it go away."

OBJECTIVE DATA

Temp: ***98.5°F, Axillary***
BP: ***107/59***
*Pulse:****51***
RR: ***17***
SaO_2: ***96% Room Air***
Pain: ***10***

Chemistry	Others	Hematology
Na: 140	TNI: N/A	RBC: 4.75
K: 3.9	CK-MB: N/A	Hgb: 14.2
Cl: 104	INR: 1.0	Hct: 41.5%
CO_2: 24	PT: 13.4	Platelets: 226
Glu: **106**	PTT: 24.4	WBC: **14.63**
BUN: 8	Lactic: N/A	Neutrophils: N/A
Crea: 0.86	HA1c: N/A	Lymphocytes: 20.8%
Albumin: 4.2	Alcohol: 0.182	Monocytes: 15.0%
Ca: 9.5		Eosinophils: 0.5%
Mg: 2.0		Bands: N/A
Phos: N/A	Cultures:	
Bilirubin: 0.2	Urine: N/A	
Alk Phos:134	Blood: N/A	
AST: 20	Sputum: N/A	
ALT: 19	Stool: N/A	

CLIENT INFORMATION

"18-year-old male presented to the emergency department as Trauma Red with a self-inflicted gunshot wound to the posterior of the head causing head trauma on the skull and occipital and parietal lobe of the brain."

DOA: ***01/14/2024***
INITIALS: ***A.R.***
Demographics:
GENDER: ***Male***
RACE/ETHNICITY: ***Non-Hispanic White***
OCCUPATION: ***Jobless***
MARITAL STATUS: ***Single***
CODE STATUS: ***Full Code***
HEIGHT: ***5'4"***
WEIGHT: ***130 lbs***
BMI: ***22.31 kg/m²***

NURSING DIAGNOSES/OUTCOMES

1. **Post-trauma syndrome related to the self-inflicted gunshot wound and head trauma to the back of the head as evidenced by the posterior skull fracture and occipital and parietal brain injury.**
   Outcome: *The client will be able to identify the feelings of guilt and suicidal ideation, learn how to call for help and learn multiple positive coping skills.*
2. **Ineffective coping related to cannabis use disorder and alcohol use disorder diagnosis by the client's psychologist as evidenced by the present self-inflicted gunshot wound to the back of the head, causing head trauma and possible traumatic brain injury.**
   Outcome: *The client uses available resources and support systems. The client will also describe and initiate effective coping strategies and will be able to describe positive results from new coping behaviors.*
3. **Risk for seizure activity related to the self-inflicted gunshot wound and head trauma to the back of the head as evidenced by the posterior skull fracture and occipital and parietal brain injury.**
   Outcome: *The client signifies understanding the signs and symptoms of seizures and what to do when seizures happen.*
4. **Impaired mental health maintenance related to the non-adherence to medical treatment and compliance of the client as evidenced by non-existing proof of home medications and mental health visits with a psychologist.**
   Outcome: *The client should demonstrate positive health maintenance behaviors by keeping scheduled visits, participating in cessation and substance abuse programs, improving the home environment, and following the treatment regimen, particularly medication adherence.*
5. **Risk of infection related to the skull fracture and brain injury as evidenced by the computed tomography result of the client.**
   Outcome: *The client will remain free of infection, as evidenced by the expected way the wound heals (no swelling, redness, pain, drainage, or temperature change).*

NURSING INTERVENTIONS

- Assess for statements of guilt or self-blame for the traumatic event or how the survival affects the client.
- Assess for the presence and degree of suicide ideation, plans, means, attempts, and the ability to come into a contract for safety with the mental health providers
- Assess the client's prior efforts to manage coping mechanisms, including decision-making and problem-solving.
- Teach the client the use of relaxation, exercise, and diversional activities as positive methods to cope with stress.
- Explain and teach the client and the client's family how to recognize seizures.
- Educate the client and the client's family on what to do during a seizure (place the client on the floor lying on the side, removing furniture and other harmful objects, not restraining the client, loosen clothing, do not place anything inside the client's mouth) and when to call emergency services.
- Assess the client's knowledge of proper health maintenance (regularly scheduled visits, medication adherence, etc.)
- Provide the client with rationales for the importance of smoking cessation, cessation of alcohol abuse, cessation of substance use abuse, stress management, and strict medication adherence.
- Monitor the wound for signs of infection (redness, swelling, increased pain, purulent drainage, elevated temperature).
- Teach the client how to maintain an aseptic technique in changing the dressing and wound care.

References:

Gulanick, M., & Myers, J. L. (2021). *Nursing care plans: Diagnoses, interventions, and outcomes* (J. L. Myers & M. Gulanick, Eds.; 10th ed.). Elsevier

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