N321 Care Plan #3

Lakeview College of Nursing

Taylor Sullivan

Demographics (3 points)

Date of Admission	Patient Initials	Age	Gender
3-34-20	M	78	F
Race/Ethnicity	**Occupation**	**Marital Status**	**Allergies**
White	Retired	widow	none
Code Status	**Height**	**Weight**	
Full	5’5”	135 lbs	

Medical History (5 Points)

Past Medical History: Hypertension, hypothyroidism, osteoarthritis

Past Surgical History: Hysterectomy, gallbladder

Family History: mother had diabetes and heart disease

Social History (tobacco/alcohol/drugs): does not smoke, drink alcohol, or use illegal drugs

Assistive Devices: none

Living Situation: lives at home by herself

Education Level: associates degree in business

Admission Assessment

Chief Complaint (2 points): left leg/hip pain

History of present Illness (10 points): Patient was out walking with her friend group this morning and her foot got caught on the sidewalk and she fell, was in too much pain to get up and called for an ambulance

Primary Diagnosis

Primary Diagnosis on Admission (2 points): Right femur fracture

Secondary Diagnosis (if applicable):.

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

The femur is one of the strongest and largest bones in the body. Younger patients are involved in high-energy mechanisms, most commonly motor vehicle collisions. Elderly patients can sustain osteoporotic femur fractures from ground-level falls. Stress fractures can occur in individuals with excess physical activity. Finally, some low energy femur fractures may be associated with osteoporosis or prolonged use of bisphosphonates. There are an estimated 9 to 22 femur fractures per 1000 people worldwide that present every year. These injuries present in a bimodal distribution. Studies show that diaphyseal fractures are often seen older patients, those with decreased bone density, low body mass index and extensive anterior and lateral bowing.

The femur is the largest bone in the human body. It has an anterior bow with a radius of curvature of 120 cm. Along the posterior middle third of the diaphysis, there is a raised crest known at the linea aspira, which serves as the attachment site for muscles and fascia and a strut to compensate for the anterior bow. The characteristic deformity following a femur fracture is caused by the strong lower extremity muscles which are attached to the femur. The proximal fragment is held in flexion and abduction. The iliopsoas, which attaches at the lesser trochanter, provides a strong flexion vector. The gluteus medius and minimus, which attach at the greater trochanter, provide a strong abduction force. The distal fragment is held in varus and extension. The adductors attach at the medial femoral condyle and provide a varus force. The gastrocnemius attaches at the posterior distal femur, pulling the fragment posteriorly and inferiorly and creating an extension deformity at the fracture. As there may be concurrent life-threatening injuries, it is important to assess the patient's entire status. Upon presentation to the trauma bay, adherence to the advanced trauma life support principles is paramount. If the patient is unstable or if intra-

abdominal pathology is suspected, the patient may be transported to the operating room urgently for exploratory laparotomy. It is important to remember that the patient's life precedes limb. If the patient is stable, it is important to perform a thorough physical exam. An obvious thigh deformity may be noted. It is important to perform a thorough neurovascular exam including pulses and assess for an open fracture. Bilateral femur fractures have been associated with a greater risk of pulmonary complications and increased mortality.

Imaging starts with plain radiographs. Orthogonal radiographs of the femur should be obtained. In addition, orthogonal imaging should be obtained of the hip and knee joints. It is important to assess for ipsilateral femoral neck injuries. A 1-9% incidence has been noted in the literature. Many level one trauma centers have adopted protocols to include computed tomography scans which include both femurs to the level of the lesser trochanter. Before the widespread adoption of these protocols, associated ipsilateral femoral neck injuries were missed approximately 20-50% of the time. Imaging may also play a part in management decision-making. The start site for intramedullary nailing may be compromised in diaphyseal fractures with an associated proximal femur fracture. In these cases, a CT of the proximal femur is helpful to assess the integrity of the greater trochanter or piriformis fossa. Blood work is always done to assess levels of hemoglobin. A significant amount of blood loss can occur with a femur fracture, which can lead to hypotension. If the wound is open, cultures should be obtained.

Treatment / Management

- **Open Fractures**

- **In instances of an open fracture, prompt antibiotics should be given in accordance with the facility's protocol. Weight-based cefazolin is commonly used. Bedside irrigation and debridement should be performed. Operative irrigation and debridement should ideally be performed within 2 hours.**

- **End of Bed Skeletal Traction**
  - **Traction provides the patient with pain control and assists the surgeon with maintaining anatomic length. The strong thigh muscles immediately contract upon injury-causing shortening of the femur. After radiographic assessment of the knee joint, a traction pin may be placed in the distal femur or the proximal tibia under local anesthesia. For femoral traction, a 4 mm Steinman pin is inserted two fingerbreadths above the superior border of the patella to ensure that it is extra-articular. It is placed in the anterior third of the femur to allow passage of the nail in the event sterile traction is required intra-operatively. For tibial traction, the pin is inserted three fingerbreadths distal to the superior aspect of the tibial tubercle. Some have argued against tibial traction due to ligamentous strain and the reported incidence of concurrent ligamentous injury with diaphyseal femur fractures. Most often, the pin is simply placed to avoid the zone of injury. Twelve pounds of traction is applied in a longitudinal fashion and can be adjusted based on the patient's weight and muscular tone. Relief is noted by the patient after the thigh muscle fatigue.**

- **External fixation**

- **External fixation may be required in the setting of damage control orthopedics. If the patient is hemodynamically unstable and is taken to the operating room for another procedure, it may be prudent to proceed with external fixation. External stabilization also may be indicated in the setting of vascular repair. Schanz pins are inserted proximally and distally to the fracture and traction is applied to approximate length, alignment, and rotation. Some constructs may require the surgeon to span the knee. Studies have shown an approximate 10% infection rate of external fixator pins. Patients with multiple injuries are transitioned to definitive fixation when stable.**

- **Intramedullary Nailing**
  - **Intramedullary nailing is the mainstay of treatment for diaphyseal femur fractures. Nailing provides relative stability at the fracture and the femur heals through secondary bone healing. Though the fracture may not be reduced anatomically, length, alignment, and rotation of the anatomic femur are obtained. Obtaining an accurate start site is imperative to a successful operation. Trochanteric and piriformis start site nails have been studied extensively, with the general consensus of equivalent outcomes. Patients may generally be made weight-bearing as tolerated following intramedullary nailing.**

- **Submuscular Plating**

- **Submuscular plating is generally relegated to complex or peri-prosthetic fractures in which the start site is compromised or not available due to a separate implant. A lateral plate can be applied through vastus splitting or sub-vastus approach. Weight-bearing is generally protected after plating.**

Timing of Surgery

It is recommended that femur fractures be managed within 2-12 hours after injury, provided that the patient is hemodynamically stable. Studies show significant benefits when intervention is undertaken within the first 24 hours. Immediate fixation lowers pulmonary complications, decreases mortality and avoids long ICU stays. However, the type of fixation remains debatable

The prognosis of patients with diaphyseal femur fracture varies on age, comorbidity, presence of osteoporosis and type of treatment. Intramedullary nailing has good results, but a significant number of patients require removal of hardware in the future because of pain. Deaths after surgery in elderly patients are not uncommon. Other complications include infection, blood loss, nonunion, delayed union, malunion and need for repeat surgery. Externa fixation is effective but is also associated with pin infections and angulation problems. Patients also need prolonged stay in the hospital, followed by extensive rehabilitation. Gait problems and pain continue to be present in a significant number of patients. Complications such as non-unions are rare but do occur. In these instances, the root of the non-union must be established. Revision can be pursued when a specific aspect of fixation, such as stability or biology, is to be addressed. Hypertrophic, aseptic non-unions can be addressed with compression and exchange nailing. In atrophic

non-unions, infection must be ruled out, especially in the setting of previously open fractures. The patient's nutrition status must be assessed with labs. Revision of atrophic non-union is often supplemented with bone grafting. Deaths related to deep vein thrombosis/pulmonary embolism, infection, nerve injury, and compartment syndrome are not uncommon.

Enhancing Healthcare Team Outcomes

Patients with diaphyseal femur fractures are usually managed by an interprofessional team that includes an orthopedic surgeon, trauma surgeon, emergency department physician, physical therapist, nurse practitioner, radiologist and an intensivist. These fractures are usually caused by high impact energy and may be associated with other injuries. The patient with a femur fracture can develop significant bleeding and may require blood transfusions along with ATLS resuscitation protocol. The decision for the type of treatment depends on the type of injury and patient stability. After treatment, most patients need prolonged rehabilitation to regain muscle strength and function. For isolated injuries of the femur, the prognosis is good, but pain and gait difficulty may be residual problems.

Pathophysiology References (2) (APA):

Medda, S. (2019, December 12). Diaphyseal Femur Fracture. Retrieved from https://www.ncbi.nlm.nih.gov/books/NBK493169/

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	Today's Value	Reason for Abnormal Value
RBC	3.8 – 5.3	4.35	4.5	
Hgb	12 – 15.8	10	12	fracture
Hct	36%- 47%	34.4	36.3	fracture
Platelets	140-440	356	400	
WBC	4-12	15	14	fracture
Neutrophils				
Lymphocytes				
Monocytes				
Eosinophils				
Bands				

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

Lab	Normal Range	Admission Value	Today's Value	Reason For Abnormal
Na-	135-145	140	142	
K+	3.5-5.1	3.5	3.8	
Cl-	98-107	98	99	
CO2				
Glucose	70-99	118	110	Hypothyroidism
BUN	7-20	10	12	
Creatinine	0.5-1	1.2	1	Hypothyroidism

Albumin	**3.5-5.7**	**3.0**	**3.6**	**Hypothyroidism**
Calcium	**8.8-10.2**	**7.0**	**8.9**	**Hypothyroidism**
Mag				
Phosphate				
Bilirubin	**0.2-0.8**	**1.1**	**0.9**	**Hypothyroidism**
Alk Phos				
AST	**13-39**	**14**	**15**	
ALT	**7-35**	**4**	**7**	**Hypothyroidism**
Amylase				
Lipase				
Lactic Acid				

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	Today's Value	Reason for Abnormal
INR				
PT				
PTT				
D-Dimer				
BNP				
HDL				

LDL				
Cholesterol				
Triglycerides				
Hgb A1c				
TSH				

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	Today's Value	Reason for Abnormal
Color & Clarity	**Yellow Clear**	**Light yellow Clear**	**Yellow clear**	
pH	**5-9**	**4.6**	**4.8**	**Hypothyroidism**
Specific Gravity	**1.000-1.0600**	**1.005**	**1.002**	
Glucose	**Negative**	**Negative**	**Negative**	
Protein	**Negative**	**Negative**	**Negative**	
Ketones	**Negative**	**Negative**	**Negative**	
WBC	**Negative**	**Negative**	**Negative**	
RBC	**Negative**	**Negative**	**Negative**	
Leukoesterase	**Negative**	**Negative**	**Negative**	

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	Today's Value	Explanation of Findings

Urine Culture				
Blood Culture				
Sputum Culture				
Stool Culture				

Lab Correlations Reference (APA):

Complete Blood Count (CBC). (n.d.). Retrieved from

https://labtestsonline.org/tests/complete-blood-count-cbc

Thyroid Panel. (n.d.). Retrieved from https://labtestsonline.org/tests/thyroid-panel

Urinalysis. (n.d.). Retrieved from https://labtestsonline.org/tests/urinalysis

Diagnostic Imaging

All Other Diagnostic Tests (5 points): right femur and pelvis x-ray

Diagnostic Test Correlation (5 points): proximal femur fracture

Diagnostic Test Reference (APA):

Current Medications (10 points, 1 point per completed med)

10 <u>different</u> medications must be completed

Home Medications (5 required)

Brand/ Generic	**Atenolol Tenormin**	**Synthroid Levothyroxine**	**Ibuprofen Advil**	**Calcium + vitamin D**	**Hydrocodone Ventrela ER**
Dose	**25 mg**	**0.25 mcg**	**200 mg**	**1,200 mg**	**500 mg/5 mg**
Frequency	**Daily**	**daily**	**Q 4-6 hrs prn for pain**	**daily**	**1 tab q 6 hrs prn for pain**
Route	**Oral**	**Oral**	**Oral**	**Oral**	**Oral**
Classification	**Beta adrenergic blocker**	**Synthetic thyroxine**	**Anti-inflammatory**	**Vitamin**	**Analgesic**
Mechanism of Action	**Lower blood pressure**	**Replaces thyroid hormone**	**Blocks activity of cyclooxygenase**	**Helps meet daily need of calcium**	**Pain relief**
Reason Client Taking	**hypertension**	**Hypothyroidism**	**Osteoarthritis**	**Osteoarthritis**	**Osteoarthritis**
Contraindications (2)	**Hypersensitivity, cardiogenic shock**	**Acute MI, hypersensitivity**	**Hypersensitivity, bronchospasm**		**Hypersensitivity, respiratory depression**
Side Effects/Adverse Reactions (2)	**Arrythmia Renal failure**	**Anxiety, angina**	**Heart failure, renal failure**		**Lethargy, hypotension**
Nursing Considerations (2)	**Use caution in diabetics, do not stop taking abruptly**	**Use caution in elderly with underlying cardiovascular disease, monitor lab values**	**Monitor liver enzymes, use caution in long term use**		**Monitor patient closely for adverse effects, monitor effectiveness for pain**

Hospital Medications (5 required)

Brand/ Generic	**Dilaudid Hydromorphone**	**Zofran Ondansetron**	**Phenergan Promethazine**	**Rocephin Ceftriaxone**	**Azithromycon Zithromax**
Dose	**2mg**	**4mg**	**12.5 mg**	**2g**	**500 mg**
Frequency	**Q 4-6 hrs PRN**	**Q 4 hrs PRN for nausea**	**Q 6 hrs PRN for nausea**	**Q 12 hrs**	**daily**
Route	**IV**	**IV**	**IV**	**IV**	**IV**
Classification	**Analgesic**	**Antiemetic**	**Antiemetic**	**Antibiotic**	**Antibiotic**
Mechanism of Action	**Pain relief**	**Reduces nausea and vomiting**	**Prevents nausea**	**Kills bacteria by interfering with the cell wall**	**Inhibits RNA protein dependent synthesis**
Reason Client Taking	**Surgery to repair femur**	**Nausea following post op sedation and pain**	**Nausea following post op sedation and pain**	**To prevent infection post-surgery**	**To prevent infection post-surgery**
Contraindications (2)	**Hypersensitivity, respiratory depression**	**Hypersensitivity, long QT syndrome**	**Hypersensitivity, CNS depression**	**Hypersensitivity, calcium containing IV solutions**	**Hypersensitivity, hepatic disfunction**
Side Effects/ Adverse Reactions (2)	**Confusion, sedation**	**Anxiety, drowsiness**	**Hypertension, nervousness**	**Seizure, acute renal failure**	**Chest pain, edema**
Nursing Considerations (2)	**Use caution in patient with blood pressure concerns, monitor effectiveness for pain**	**Dilute drug in 50ml normal saline, monitor patient's cardiac activity**	**Use caution in elderly they may be more sensitive to its effects, give no more than 25mg/ min for IV can produce drop in BP**	**Protect powder from light, monitor lab values**	**Monitor elderly patients for arrythmia, monitor liver enzymes**

Medications Reference (APA):

Jones & Bartlett Learning. (2019). 2019 Nurses drug handbook. Burlington, MA.

Assessment

Physical Exam (18 points)

GENERAL (1 point): **Alertness:** **Orientation:** **Distress:** **Overall appearance:**	**Patient is alert and oriented x4, no signs of acute distress, appears well groomed and appropriate**
INTEGUMENTARY (2 points): **Skin color:** **Character:** **Temperature:** **Turgor:** **Rashes:** **Bruises:** **Wounds:** . **Braden Score:** **Drains present: Y☐ N ☒** **Type:**	**Pink, warm and dry, Skin turgor normal. No noted lesions, rashes, bruises or wounds.** **Braden score 23** **No drains**
HEENT (1 point): **Head/Neck:** **Ears:** **Eyes:** **Nose:** **Teeth:**	**Head is midline with no deviations. Hair is blonde. Ears show no abnormal drainage, tympanic membrane visible, pearly grey. PEERLA is noted. Patient uses glasses regularly. Nose shows no deviated septum, turbinates equal bilaterally. Oral mucosa is pink and moist with no notable abnormalities. Dentures noted.**
CARDIOVASCULAR (2 points): **Heart sounds:** **S1, S2, S3, S4, murmur etc.** **Cardiac rhythm (if applicable):** **Peripheral Pulses:** **Capillary refill:** **Neck Vein Distention: Y ☐ N ☒** **Edema Y ☒ N ☐** **Location of Edema: right leg**	.**Patient is on telemetry, Normal Sinus Rhythm noted. S1 and S2 heard, radial pulses palpable, pedial pulses palpable, edema 2+ to right extremitiy. Capillary refill less than 3 seconds.**
RESPIRATORY (2 points): **Accessory muscle use: Y☐ N ☒** **Breath Sounds: Location, character**	**Breathing normal, breath sounds clear. Not using accessory muscles. Does not need oxygen 96% RA**
GASTROINTESTINAL (2 points): **Diet at home:** **Current Diet** **Height: 5' 5"** **Weight:135** **Auscultation Bowel sounds:**	**Abdomen flat and moves with respiration. Stated pain to the upper abdomen. The liver and spleen were not palpable. There was no organomegaly. Bowel sounds active in all four quadrants. No drains noted. Last BM was yesterday. Scar from hysterectomy in '85 and**

Last BM: **Palpation: Pain, Mass etc.:** **Inspection:** **Distention:** **Incisions:** **Scars:** **Drains:** **Wounds:** **Ostomy: Y ☐ N ☒** **Nasogastric: Y ☐ N ☐** **Size:** **Feeding tubes/PEG tube Y ☐ N ☒** **Type:**	**gallbladder in '90**
GENITOURINARY (2 Points): **Color:** **Character:** **Quantity of urine:** **Pain with urination: Y ☐ N ☒** **Dialysis: Y ☐ N ☒** **Inspection of genitals:** **Catheter: Y ☒ N ☐** **Type: Foley** **Size:16**	**Foley catheter noted 16fr with balloon intact Urine appears clear yellow.**
MUSCULOSKELETAL (2 points): **Neurovascular status:** **ROM:** **Supportive devices:** **Strength:** **ADL Assistance: Y☒ N ☐** **Fall Risk: Y ☒ N☐** **Fall Score:** **Activity/Mobility Status:** **Independent (up ad lib) ☐** **Needs assistance with equipment ☐** **Needs support to stand and walk☐**	**ROM intact in the upper and lower extremities. 5/5 musculoskeletal strength in upper and lower extremities. Fall score 15. Independent able to get up and move on her own**
NEUROLOGICAL (2 points): **MAEW: Y ☒ N☐** **PERLA: Y ☒ N☐** **Strength Equal: Y ☒ N ☐ if no -** **Legs ☐ Arms ☐ Both ☐** **Orientation:** **Mental Status:** **Speech:** **Sensory:**	**awake, oriented to person, place, time, and able to state reason for visit. She speaks and comprehends English well. Pupils are equal and reactive. Equal grips bilaterally in both upper and lower extremities. Normal sensation upon assessment. Speech is clear.**

LOC:	
PSYCHOSOCIAL/CULTURAL (2 points): **Coping method(s):** **Developmental level:** **Religion & what it means to pt.:** **Personal/Family Data (Think about home environment, family structure, and available family support):**	**very active and stays fit for her age, very active with her children and grandchildren. Volunteers at the local hospital, lives on her own**

Vital Signs, 2 sets (5 points)

Time	Pulse	B/P	Resp Rate	Temp	Oxygen
0830	**86**	**160/90**	**22**	**97.6**	**96 room air**
1400	**88**	**150/88**	**22**	**98.8**	**92 on 2L**

Pain Assessment, 2 sets (2 points)

Time	Scale	Location	Severity	Characteristics	Interventions
0830	**10/10**	**Abdominal**	**Unable to move**	**Discomfort, sharp**	**2mg IV dilaudid**
1400	**7/10**	**Right leg/hip**	**Unmanageable**	**Discomfort, dull**	**2mg IV dilaudid**

IV Assessment (2 Points)

IV Assessment	Fluid Type/Rate or Saline Lock
Size of IV: 18g **Location of IV: left hand** **Date on IV: 3-34-20** **Patency of IV: flushes with ease** **Signs of erythema, drainage, etc.: none** **IV dressing assessment: clean and dry**	0.9% NS 100ml/hr

Intake and Output (2 points)

Intake (in mL)	Output (in mL)
60 ml	**300 ml**

Nursing Care

Summary of Care (2 points)

Overview of care:

Procedures/testing done: CBC, CMP, Urinalysis, X-ray, Surgical repair of fracture

Complaints/Issues: Pain as expected with surgery

Vital signs (stable/unstable): Stable

Tolerating diet, activity, etc.: Tolerates diet and activity

Physician notifications:

Future plans for patient:

Discharge Planning (2 points)

Discharge location: Home, granddaughter will stay with her since she is home from college

Home health needs (if applicable): PT/OT

Equipment needs (if applicable): walker, needs shower chair and handrails if does not already have

Follow up plan:

- **Educate patient deep breath and cough**
- **PT/OT**
- **Use of SCDs**
- **Pain and nausea medications**

Education needs:

- **Educate family on any precautions and safety in home**
- **Medication education**

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

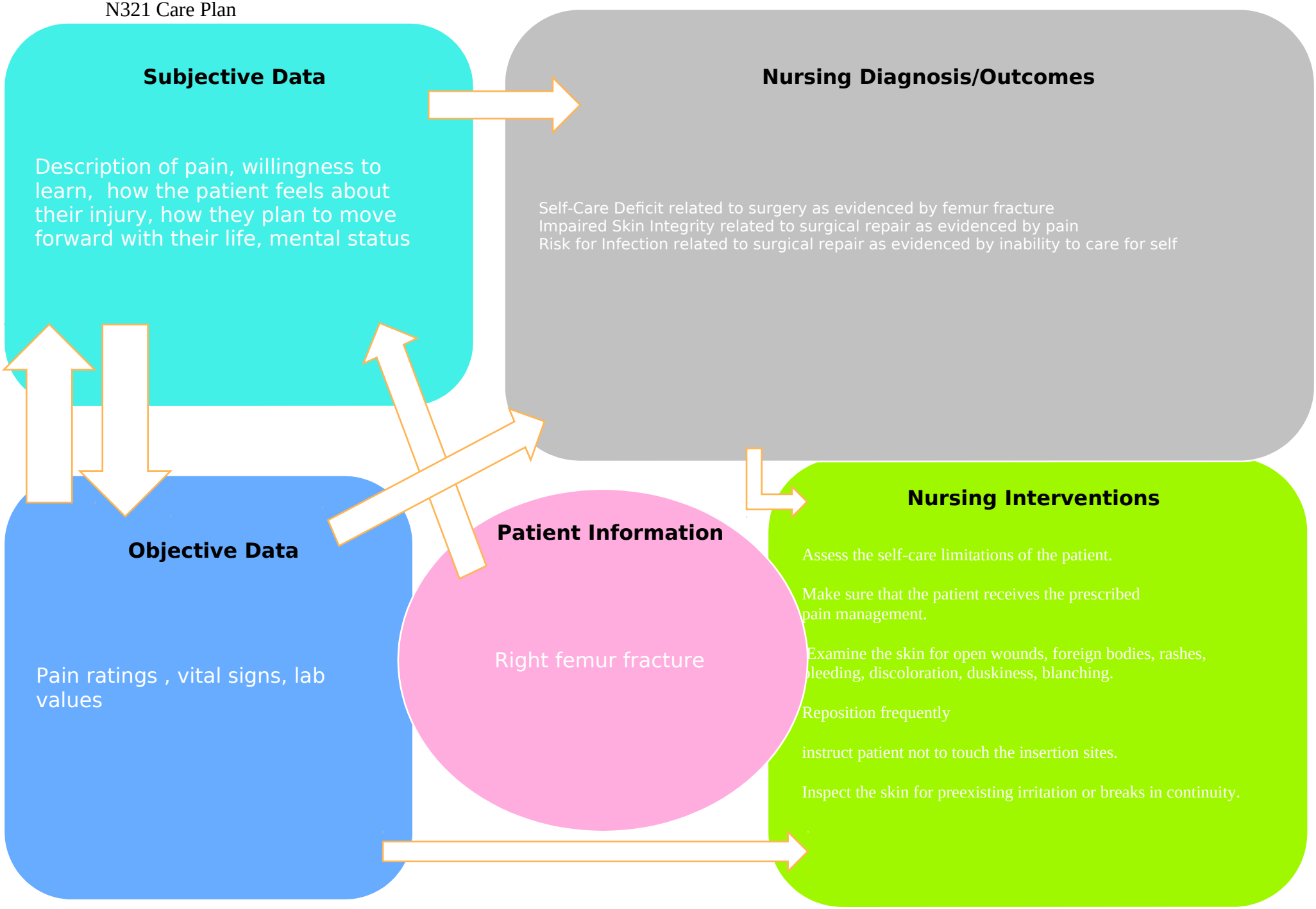
Nursing Diagnosis • Include full nursing diagnosis with "related to" and "as evidenced by" components	**Rational** • Explain why the nursing diagnosis was chosen	**Intervention (2 per dx)**	**Evaluation** • How did the patient/family respond to the nurse's actions? • Client response, status of goals and outcomes, modifications to plan.
1. Self-Care Deficit related to surgery as evidenced by femur fracture	**Impaired ability to perform or complete activities of daily living for oneself, such as feeding, dressing, bathing, toileting.**	**1.Assess the self-care limitations of the patient.** **2.Make sure that the patient receives the prescribed pain management.**	**Teach the clients family members on how to assist her once she returns home and make sure she receives her pain medication as scheduled to help decrease pain and promote the patient to help with their self-care**
2. Impaired Skin Integrity related to surgical repair as evidenced by pain	**at risk for altered epidermis and/or dermis**	**1. Examine the skin for open wounds, foreign bodies, rashes, bleeding, discoloration, duskiness, blanching.** **2.Reposition frequently**	**Monitor the patients skin for break down due to limited mobility while in the recovery process, encourage the family to help the client reposition every two hours to help prevent skin break down and ulceration**
3. Risk for Infection related to surgical repair as evidenced by inability to care for self	**at increased risk for being invaded by pathogenic organisms.**	**1.instruct patient not to touch the insertion sites.** **2. Inspect the skin for preexisting irritation or breaks in continuity.**	**Infection is a risk anytime the integrity of the skin is disrupted, teach the client to avoid touching the wound to prevent spread of dirt and bacteria, as well as teaching them how to keep the**

			wound clean and dry

Other References (APA):

Concept Map (20 Points)

N321 Care Plan



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