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| **Case Study & Trend Topic**: | Abdominal Surgery Postoperative care | **Author:** | Diane Billings, EdD, RN, ANEF, FAAN |

**Case Summary**

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| The nurse is planning care for a male client who had abdominal surgery to remove a tumor in the colon. The nurse obtains vital signs and assesses the client when the client returns to the medical surgical unit. The nurse analyzes cues to determine priorities for nursing care. The nurse generates solutions for the client’s immediate needs and implements strategies to prevent complications of surgery. The nurse evaluates the outcomes of care. |

**Objectives**

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| 1. Assess client immediately following abdominal surgery.  2. Analyze cues to determine the client’s priorities for nursing care.  3. Interpret data to determine client’s priority problem.  4. Generate solutions to manage care for a client immediately following surgery.  5. Implement strategies to prevent complications following surgery.  6. Evaluate outcomes of care for a client following surgery. |

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| **Case Study Link** | **Case Study QR Code** |
| <https://umaryland.az1.qualtrics.com/jfe/form/SV_erFmnV7abVROhvw> |  |
| **Trend QR Code** | **Trend Link** |
|  | https://umaryland.az1.qualtrics.com/jfe/form/SV\_7aMQLQzJBU1Ujga |

**Case References**

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| Williams, L. & Hopper, P. (2019) *Understanding Medical-Surgical Nursing*. Philadelphia, FA Davis. |

**Case Study Screen 1 of 6**

The nurse is caring for a 50-year-old male client admitted to the Medical-Surgical unit from a Post Anesthesia Care Unit following surgery to remove a tumor from the colon.

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| **Nurses’ Notes** |
| **1045.** Returned from Post Anesthesia Care Unit (PACU) at 1030. Client has history of smoking ½ pack cigarettes per day. He is oriented to time and place. Client is restless and reports having pain at incision site of 9/10. No pain medication given in PACU. Bowel signs are absent; has not voided. Dressing is intact with 2 centimeters of dried blood at midline.  Vital signs: T 98F (36.7C), P 80, R 24, BP 120/80. Oxygen saturation per pulse oximetry on room air is 93%. IV of D5W 1000 is running at 125/mL/hr. Spouse is with client. | |

The nurse has assessed the client. Which findings require immediate follow-up? Select all that apply.

* History of smoking
* Incisional pain of 9/10\*
* Restlessness\*
* Bowel sounds are absent
* Has not had pain medication since surgery\*
* Oxygen saturation is 93% on room air
* Heart rate is 80
* Respiratory rate is 24\*
* Has not voided

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| **Score +/-**  **Rationale:** Recognizing cues: The client reports pain of 9/10, is restless and has not received any pain medication since surgery. The client’s smoking history does not require immediate follow-up. The oxygen saturation per pulse oximetry is low, but in normal range. The heart rate is in normal range. The respiratory rate is increased. Absence of bowel sounds, and voiding are expected immediately following surgery. |

**Case Study Screen 2 of 6**

The nurse is caring for a 50-year-old male client admitted to the Medical-Surgical unit from a Post Anesthesia Care Unit following surgery to remove a tumor from the colon.

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| **Nurses’ Notes** |
| **1045.** Returned from Post Anesthesia Care Unit (PACU) at 1030. Client has history of smoking ½ pack cigarettes per day. He is oriented to time and place. Client is restless and reports having pain at incision site of 9/10. No pain medication given in PACU. Bowel signs are absent; has not voided. Dressing is intact with 2 centimeters of dried blood at midline.  Vital signs: T 98F (36.7C), P 80, R 24, BP 120/80. Oxygen saturation per pulse oximetry on room air is 93%. IV of D5W 1000 is running at 125/mL/hr. Spouse is with client.  **1100.** Vital signs T 98F (36.6C), P 82, R 26, BP 122/70, Oxygen saturation 93% on RA, pain 10/10. | |

The nurse reviews the Nurses’ Notes at 1100.

* For each finding, click to indicate if the finding is helpful or not helpful in determining the client’s risk for problems following surgery.

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| Finding | Helpful | Not helpful |
| Pain 10/10 | * \* |  |
| Bowel sounds absent |  | * \* |
| Oxygen saturation 93 per cent per pulse oximetry | * \* |  |
| Restlessness | * \* |  |
| IV rate of 125/mL/hr |  | * \* |

Note: Each row must have one selection.

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| **Score 0/1**  **Rationale**: Analyzing cues: The nurse should differentiate between findings that are helpful and not helpful in determining the client’s priority problem. The client’s report of pain of 10/10 and restlessness will require immediate nursing action. Vital signs are within normal range; absent bowel sounds, oxygen saturation of 93%, infusion rate of 125/mL/hr are expected findings following surgery. |

**Case Study Screen 3 of 6**

The nurse is caring for a 50-year-old male client admitted to the Medical-Surgical unit from a Post Anesthesia Care Unit following surgery to remove a tumor from the colon.

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| **Nurses’ Notes** |
| **1045.** Returned from Post Anesthesia Care Unit (PACU) at 1030. Client has history of smoking ½ pack cigarettes per day. He is oriented to time and place. Client is restless and reports having pain at incision site of 9/10. No pain medication given in PACU. Bowel signs are absent; has not voided. Dressing is intact with 2 centimeters of dried blood at midline.  Vital signs: T 98F (36.7C), P 80, R 24, BP 120/80. Oxygen saturation per pulse oximetry on room air is 93%. IV of D5W 1000 is running at 125 mL/hr. Spouse is with client.  **1100.** Vital signs T 98F (36.6C), P 82, R 26, BP 122/70, Oxygen saturation 93% on RA, pain 10/10.  . | |

Complete the following sentence by choosing from the list of options.

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| Based on the assessment findings the client is most likely experiencing | **Select**  postoperative pain\*  dehydration  inadequate oxygenation |
| as evidenced by | **Select** |
| the oxygen saturation |
| no urine output |
| pain of 10/10\* |
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| **Score rationale rule**  Rationale: Prioritizing Hypothesis: The client is experiencing postoperative pain as evidenced by the client’s report of an increased pain level of 10/10. The client has not voided but is receiving adequate intravenous fluids and does not have other signs of dehydration. The oxygen saturation is low but within normal range. |

**Case Study Screen 4 of 6**

The nurse is caring for a 50-year-old male client admitted to the Medical-Surgical unit from a Post Anesthesia Care Unit following surgery to remove a tumor from the colon.

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| **Nurses’ Notes** |
| **1045.** Returned from Post Anesthesia Care Unit (PACU) at 1030. Client has history of smoking ½ pack cigarettes per day. He is oriented to time and place. Client is restless and reports having pain at incision site of 9/10. No pain medication given in PACU. Bowel signs are absent; has not voided. Dressing is intact with 2 centimeters of dried blood at midline.  Vital signs: T 98F (36.7C), P 80, R 24, BP 120/80. Oxygen saturation per pulse oximetry on room air is 93%. IV of D5W 1000 is running at 125 mL/hr. Spouse is with client.  **1100.** Vital signs T 98F (36.6C), P 82, R 26, BP 122/70, Oxygen saturation 93% on RA, pain 10/10. | |

* For each body system, click to specify the potential nursing intervention that would be appropriate to include in this client’s care **as soon as possible**.

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|  | Potential Interventions |
| Respiratory | Select |
| Encourage coughing and deep breathing\* |
| Apply oxygen per face mask |
| Request an albuterol treatment |
| Gastrointestinal | Select |
| Insert a nasogastric tube |
| Offer clear liquids as tolerated\* |
| Request a laxative |
| Urinary | Select |
| Administer a fluid bolus |
| Assist client to void \* |
| Perform a straight catheterization |
| Pain management | Select |
| IV morphine\* |
| PO hydrocodone and acetaminophen |
| IM ketorolac |

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| **Score 0/1**  **Rationale:** Generate Solutions: A pulse oximeter reading of 93% and slightly elevated respiratory rate may improve with coughing and deep breathing. If those measures fail oxygen would be applied per nasal cannula. Albuterol would be added based on breath sounds and/or continued need for oxygen. Absent bowel sounds are typical after a gastrointestinal surgery. In the absence of nausea or vomiting, clear liquids are typically started, and the diet is advanced as tolerated. If the need for a nasogastric tube was anticipated by the surgeon, it would have been placed in surgery. A laxative may be needed but would not start before the client resumed PO intake. Most clients void spontaneously within 3 hours of surgery, the IV is infusing, and the blood pressure and heart rate are stable. There is no evidence of dehydration, and it is too soon to determine that the client has a problem with post-operative urinary retention that needs intervention. Assisting the client to void by offering privacy and helping them assume a normal voiding position is all that is needed at this time. Pain is the client’s priority problem, and the nurse should first administer the IV morphine. IM pain medications are typically given when the client does not have an IV. PO medications would not act quickly enough to treat severe pain. |

**Case Study Screen 5 of 6**

The nurse is caring for a 50-year-old male client admitted to the Medical-Surgical unit from a Post Anesthesia Care Unit following surgery to remove a tumor from the colon.

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| **Nurses’ Notes** |
| **1045.** Returned from Post Anesthesia Care Unit (PACU) at 1030. Client has history of smoking ½ pack cigarettes per day. He is oriented to time and place. Client is restless and reports having pain at incision site of 9/10. No pain medication given in PACU. Bowel signs are absent; has not voided. Dressing is intact with 2 centimeters of dried blood at midline.  Vital signs: T 98F (36.7C), P 80, R 24, BP 120/80. Oxygen saturation per pulse oximetry on room air is 93%. IV of D5W 1000 is running at 125 mL/hr. Spouse is with client.  **1100.** Vital signs: T 98F (36.6C), P 82, R 26, BP 122/70, Oxygen saturation 93% on RA, pain 10/10. | |
| **Orders** |
| Up ad lib  Diet as tolerated  Morphine sulphate 10 mg IV q 4 h prn for pain  D5W 1000 mL q 8 h, infuse at 125 mL/hr  Incentive spirometer q 1 h | |

The nurse receives orders and begins implementing the treatment plan.

What should the nurse teach the client about using the incentive spirometer? **Select all that apply.**

* Lie flat in bed
* Splint the incision with a pillow\*
* Before using the spirometer by take 2 normal breaths\*
* Start by closing the lips around the spirometer and inhale to the mark on the spirometer\*
* Hold the breath for 10 seconds
* Take a deep breath and cough to clear lungs\*
* Do 10 sets of the procedure three times a day

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| **Score +/-**  **Rationale:** Take Action: After administering pain medication, the nurse should teach the client about using the incentive spirometer. The client should start by sitting on the edge of the bed or as upright as possible. Using a pillow to splint the incision will reduce pain. The client should take 2 normal breaths and then close the lips around the tube and inhale. The client should hold the breath for 3-5 seconds and then take a deep breath and cough to expectorate any mucous. The client should do 10 sets of the procedure every hour as ordered. |

**Case Study Screen 6 of 6**

The nurse is caring for a 50-year-old male client admitted to the Medical-Surgical unit from a Post Anesthesia Care Unit following surgery to remove a tumor from the colon.

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| **Nurses’ Notes** |
| **1045.** Returned from Post Anesthesia Care Unit (PACU) at 1030. Client has history of smoking ½ pack cigarettes per day. He is oriented to time and place. Client is restless and reports having pain at incision site of 9/10. No pain medication given in PACU. Bowel signs are absent; has not voided. Dressing is intact with 2 centimeters of dried blood at midline.  Vital signs: T 98F (36.7C), P 80, R 24, BP 120/80. Oxygen saturation per pulse oximetry on room air is 93%. IV of D5W 1000 is running at 125 mL/hr. Spouse is with client.  **1100.** Vital signs T 98F (36.6C), P 82, R 26, BP 122/70, Oxygen saturation 93% on RA, pain 10/10.  **1115.** Administered 4 mg morphine IV push  **1145.** Pain 6/10. Assisted client to bathroom; voided 400 ml. Instructed client on using incentive spirometry and taking deep breaths. Drank 500 ml apple juice. Client in bed, Dressing is intact with 2 centimeters of dried blood at midline.  **1200.** Vital signs: T 98F (36.6C), P78, R 20, BP 120/70, O2 Saturation 96% on RA, pain 6/10. Bowel sounds absent. | |
| **Orders** |
| Up ad lib  Diet as tolerated  Morphine sulphate 10 mg IV q 4 h prn for pain  D5W 1000 mL q 8 h, infuse at 125 mL/hr  Incentive spirometer q 1 h | |

The nurse implements the treatment plan and reassesses the client at 1200.

* For each finding, click to specify if the finding indicates that the client’s status has improved or is unchanged.

|  |  |  |
| --- | --- | --- |
| Finding | Improved | Unchanged |
| Pain | * \* |  |
| Oxygen saturation | * \* |  |
| Respiratory Rate | * \* |  |
| Bowel sounds absent |  | * \* |
| Intake | * \* |  |
| Urinary output | * \* |  |
| Heart rate |  | * \* |

Note: Each row must have one option selected.

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| **Score 0/1**  Rationale: Evaluating Outcomes: The nurse determines the client’s status is improving. The client’s pain level is now 6/10. Since the client used the incentive spirometer the O2 saturation has improved, and the respiratory rate is 20. The client drank 500 ml of apple juice and is less thirsty. The client has voided 400 ml. Bowel sounds are not expected to return for several days after surgery. The heart rate remains within normal limits. |

Trend

The nurse is caring for a 50-year-old male client admitted to the Medical-Surgical unit from a Post Anesthesia Care Unit following surgery to remove a tumor from the colon.

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| **Nurses’ Notes** |
| **1045.** Returned from Post Anesthesia Care Unit (PACU) at 1030. Client has history of smoking ½ pack cigarettes per day. He is oriented to time and place. Client is restless and reports having pain at incision site of 9/10. No pain medication given in PACU. Bowel signs are absent; has not voided. Dressing is intact with 2 centimeters of dried blood at midline.  Vital signs: T 98F (36.7C), P 80, R 24, BP 120/80. Oxygen saturation per pulse oximetry on room air is 93%. IV of D5W 1000 is running 125 mL/hr. Spouse is with client.  **1100.** Vital signs T 98F (36.6C), P 82, R 26, BP 122/70, Oxygen saturation 93% on RA, pain 10/10.  **1115.** Administered 4 mg morphine IV push  **1145.** Pain 6/10. Assisted client to bathroom; voided 400 ml. Instructed client on using incentive spirometry and taking deep breaths. Drank 500 ml apple juice. Client in bed; dressing is intact with 2 centimeters of dried blood at midline.  **1200.** Vital signs: T 98F (36.6C), P78, R 20, BP 120/70, O2 Saturation 96% on RA, pain 6/10. Bowel sounds absent. | |
| **Orders** |
| Up ad lib  Diet as tolerated  Morphine sulphate 10 mg IV q 4 h prn for pain  D5W 1000 mL q 8 h, infuse at 125 mL/hr  Incentive spirometer q 1 h | |

The nurse implements the treatment plan and reassesses the client at 1200.

* For each finding, click to specify if the finding indicates that the client’s status has improved or is unchanged since 1145.

|  |  |  |
| --- | --- | --- |
| Finding | Improved | Unchanged |
| Pain | * \* |  |
| Oxygen saturation | * \* |  |
| Respiratory Rate | * \* |  |
| Bowel sounds absent |  | * \* |
| Intake | * \* |  |
| Urinary output | * \* |  |
| Heart rate |  | * \* |

Note: Each row must have one option selected.