

Perioperative Nursing Data Set

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Overview of PNDS

PNDS is a standardized nursing vocabulary that offers perioperative nurses a clear, precise and universal language for similar clinical problems and treatments. It provides for a consistent approach to describe clinical outcomes. PNDS offers a systematic approach to define and recognize the perioperative nursing contributions in healthcare. The ability to justify perioperative nursing care can be performed both quantitatively as well qualitatively with a national database.

Components of PNDS

PNDS describes: patient problems that nurses identify, interventions that nurses provide, resources required to administer the care, the outcomes achieved.

PNDS consists of: 64 nursing diagnosis, 127 nursing interventions, 29 nurse sensitive patient outcomes

Example of PNDS outcome and interventions

Electrical Injury

Outcome 04: The patient is free from signs and symptoms of electrical injury.

Outcome Definition: The patient is free from any observable signs or reported symptoms of injury related to use of electrical devices.

Interpretive Statement: Prevention of electrical injury requires application of principles of electrosurgical safety, routine maintenance, and knowledge of potential hazards. Performance of the operative or other invasive procedure relies on many electrical devices, notably the electrosurgical unit (ESU). Electrical equipment must be used according to manufacturers' documented instructions.

Outcome Indicators:

- Skin condition (dispersive electrode sites and potential alternative ground injury): smooth, intact, and free from ecchymosis, blisters, or redness.
- Neuromuscular status: flexes and extends extremities without assistance; denies numbness or tingling of extremities.
- Cardiovascular status: heart rate and blood pressure within expected ranges; peripheral pulses present and equal bilaterally; skin warm to touch.
- Pain perception: denies acute pain or discomfort at dispersive electrode ground site.

Examples of Interim Outcome Statements:

- The patient's skin, other than incision, remains unchanged between admission and discharge from the OR.
- The patient's vital signs are stable at discharge from the OR.
- The patient reports comfort at the dispersive electrode site on admission to the postoperative unit.

Potentially Applicable Nursing Diagnoses:

- Risk of impaired skin integrity (X51)
- Impaired skin integrity (X50)
- Acute pain (X38)

Nursing Interventions and Activities:

Implements protective measures to prevent injury due to electrical sources (172).
Prevents injury secondary to dispersive electrode placement, active electrode handling, electrosurgical unit use, or stray radiofrequency current.

- Implements general electrosurgery safety precautions.
 - Prevents electrosurgery use in the presence of flammable gases, flammable liquids, or flammable objects.
 - Limits electrosurgery use in oxygen enriched atmospheres, nitrous oxide (N₂O) atmospheres, or in the presence of other oxidizing agents.

- Prevents accumulation of oxygen, other oxidizing gases (eg, N₂O), and flammable gases under surgical drapes or within areas where electrosurgery is performed.
- Verifies that all oxygen circuit connections are leak-free before and during use of electrosurgery, especially in head and neck region of patient's body.
- Prevents electrosurgery use in the presence of flammable (alcohol-based) skin prepping agents and tinctures.
- Prevents pooling of prepping solutions and other fluids.
- Recognizes that no dispersive electrode is needed for bipolar procedures.
- Implements dispersive patient electrode safety precautions.
 - Checks dispersive electrode package for outdate and package integrity.
 - Discards packages that have expired or have been compromised.
 - Uses dispersive electrode according to the manufacturers' documented instructions.
 - Inspects dispersive electrode before each use for wire breakage or fraying.
 - Selects appropriate size dispersive electrode for patient (i.e., neonate/infant, pediatric, adult).
 - Does not cut dispersive electrode to accommodate patient size.
 - Shaves, cleans, and dries application site as needed.
 - Places dispersive electrode on positioned patient on a clean, dry skin surface over well-vascularized, convex area in close proximity to operative site.
 - Avoids bony prominences, scar tissue, skin over an implanted metal prosthesis, hairy surfaces, pressure points, adipose tissue, and areas where fluid may pool.
 - Applies finger pressure to adhesive border of the electrode and massages entire pad area to ensure adequate contact with the patient's skin.
 - Follows manufacturers' guidelines for alarm system check prior to use.
 - Uses only manufacturer-approved adapter to connect dispersive electrode to electrosurgical unit (ESU).
 - Checks dispersive electrode connections to ascertain that they are clean, intact, and can make effective contact.
 - Avoids skin to skin contact, such as fingers touching the patient's leg, when ESU is activated.
 - Prevents dispersive electrode from tenting, gaping, and contacting liquids that interfere with adhesion.
 - Removes dispersive electrode gently in manner to protect skin.
 - Monitors status and function of dispersive electrode.
- Implements active electrode safety precautions.
 - Prevents electrosurgical active electrodes from being placed near or in contact with flammable materials such as gauze and surgical drapes.
 - Places active electrodes in a non-conductive holster designed to hold electrosurgical pencils and similar accessories when they are not in use.
 - Sets the generator activation tone at an audible level.
 - Checks both the active and the patient dispersive electrodes and their connections before increasing power settings.
 - Places both monopolar and bipolar accessories in the appropriate power output receptacles.
 - Activates electrode mode and function. (RNFA)
 - Assesses proximity of nerves and adjacent structures when activating electrode. (RNFA)
 - Determines appropriate mode (mono/bipolar) and function (cut or coagulation). (RNFA)
 - Keeps active electrode free from debris and eschar buildup.
 - Avoids using the suction coagulator as a tissue retractor during activation.
- Inspects insulation of active electrodes for cracks, breaks, and holes before use in minimally invasive surgery.

- Avoids using a hybrid cannula system (metal and plastic components) during minimally invasive surgery.
- Avoids coiling, bundling, or clamping active and patient dispersive electrodes.
- Avoids wrapping active electrode cords around a metal instrument.
- Removes all metal patient jewelry to prevent current diversion and to avoid contact with other metals.
- Reviews chart to determine special considerations (eg, pacemaker, AICD).
- Applies safety devices to patient according to manufacturers' documented instructions, plan of care, and applicable facility practice guidelines.
- Removes safety devices from patient when indicated.
- Inspects insulation on reusable and disposable electrodes.
- Encourages lowest possible power settings and verbally confirms settings with surgeon.
- Secures ESU cords to avoid displacement of pad.
- Records placement of dispersive electrode, identification number of unit, and settings used.

Evaluates for signs and symptoms of electrical injury (I37).

Observes for redness, blistering, or burn to the skin.

- Examines patient dispersive electrode site for any skin changes.
- Evaluates skin integrity, paying close attention to any imprint on the dispersive pad itself, areas under dispersive electrode, skin under the electrocardiogram (ECG) leads, and at temperature probe entry sites.
- Assesses skin at bony prominences or pressure sites for reddened or raised areas.

Future applications for PNDS

Mapping of PNDS to SNOMED has offered a powerful linkage between medical and nursing nomenclature. The PNDS nursing diagnoses and interventions are currently mapped to SNOMED. The availability of PNDS outcomes on SNOMED is slated for December 2003.

The creation of PNDS allows for the concept of a complete computerized patient record to be realized. When PNDS is incorporated into information systems it makes it possible to extract data that is consistent and comparable across institutions and perioperative settings. The documentation of the nursing impact being made on patient outcomes becomes apparent.