Certified Registered Nurse Anesthetist
Nonsurgical Pain Management Infection Prevention Competencies

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Problem

- Incidence of pain/costs
  - 116 million people in US, costs > $560B
- Growth of subspecialty
  - Increasing number of nurse anesthetists practicing in subspecialty
- Movement of the subspecialty from hospital to office
Problem

- 17 outbreaks of bacterial, fungal, or parasitic infections between 1999-2009 (MacCannell, et al., 2010)
  - 7 at pain clinics
  - 47% of procedures with contamination were joint or spine injections

- Lack of published infection prevention nonsurgical pain management competencies
Study Overview

- Delphi approach, define infection prevention competencies for top three injection procedures (lumbar epidural steroid, sacral iliac joint, trigger point)
- Dreyfus Model of Skill Acquisition, as used by Benner
Study Overview

- Research questions
- Data collection methods
- Data analysis
  - A priori consensus definition: > 80% of respondents selecting “strongly agree” or “agree” + mean score > 4.0
Findings

- Response rate 14.2% (75/527)
- NSPM practitioners: 73% practice in hospital, 87% work part time, 59% don’t perform SI joint injections
- Expert panelists: 80% practice in office or outpatient, 60% work full time, 100% perform SI joint injections
Findings

- NSPM practitioners: 52% use fluoroscopy, 92% report receiving education after primary anesthesia education, 51% had cadaver training, 63% had one-on-one training with another nurse anesthetist pain practitioner
- Experts: 100% use fluoroscopy
Findings

- As years of NSPM practice increased, so did the number of respondents disagreeing with proposed infection prevention competency statements and terminal objectives
  - 50% of NSPM practitioners with 11+ years NSPM experience disagreed with at least 1 survey item compared with 14.2% of NSPM practitioners w/0-3 yrs
Findings

- Increasing years of pain experience = increasing complexity of procedures performed
  - 60% of 0-3 years experience in NSPM practitioners reported epidural only, compared to 30.7% of 11+ years experience in NSPM practitioners reporting performing epidural only
  - Increased use of fluoroscopy with addition of SI injections
Findings

- If perform epidural only = low frequency of fluoroscopy use (25%-50%); however, high rate of using contrast media on more than one patient (33% - 100%)

- If perform epidural and/or sacral iliac injections = higher rate of fluoroscopy use (50% - 100%) AND high rate of using contrast media on more than one patient (28% - 46%)
Findings

- 18.7% of respondents reporting use of contrast media on more than one patient also reported a pain infection
- 10.7% of respondents who did not use contrast media on more than one patient also reported a pain infection
- All reported infections occurred in accredited facilities
Findings

- Items achieving consensus after 2\textsuperscript{nd} Delphi
  - All (n = 4) competency domains
  - All (n = 13) competency statements
  - 39 (n = 45 original) competency terminal objectives

- Most disagreement associated with aseptic technique and quality assurance/quality improvement
Findings

- Seven terminal objectives were reviewed for editing after 2nd round - all retained
  - Two directly supported by Centers for Disease Control and Prevention (CDC) guidelines
  - Five had > 88% support when including “neither agree nor disagree” category
Findings

- Aseptic technique terminal objectives NOT achieving consensus:
  - When performing epidural or SI injections, wears a sterile gown (2nd round)
  - When performing trigger points wears a hat (2nd round)
  - When performing trigger points, wears a mask (1st round)
  - When performing trigger points, uses a sterile drape (2nd round)
  - When performing trigger points, wears a sterile gown (1st round)
Findings

- Quality Assurance/Quality Improvement terminal objective NOT achieving consensus:
  - Completes a minimum of one continuing education unit specific to infection prevention annually (2nd round)
Terminal Objectives
Achieving Consensus
Procedural Knowledge

- Conducts a history and physical of the patient.
- Confirms patient diagnosis is consistent with the planned NSPM procedure.
- Determines the appropriate approach for the NSPM procedure.
- Describes potential risks of the NSPM procedure.
- Describes potential complications of the NSPM procedure.
- Describes potential benefits of the NSPM procedure.
Procedural Knowledge

- Discusses alternatives to the planned NSPM procedure with the patient.
- Confirms procedure-specific discharge instructions are given to the patient.
Aseptic Technique

- Performs hand hygiene prior to and after patient contact.
- Selects appropriate skin antiseptic based on best available evidence.
- Applies skin antiseptic in a manner consistent with currently acceptable best practices (i.e., circular outward pattern).
- Adheres to skin antiseptic manufacturer’s guidelines for use (e.g., allows product to dry).
- Describes the methods for establishing and maintaining a sterile field.
- When performing LESI or SIJ injections, wears or uses a hat, mask, sterile gloves, and sterile drape.
Aseptic Technique

- When performing TPIs, wears sterile gloves.
- Uses medication vials or ampoules labeled as single-use or single-dose for one patient only.
- Disinfects the medication vial septum on single-use and multi-dose medication vials before accessing the vial.
- Does not store multi-dose medication vials in the immediate patient care area.
- Uses a new, sterile needle and syringe to access medication vials or ampoules, even when the medication is used for the same patient.
Aseptic Technique

- Never refills a syringe, even for the same patient.
- Uses a needle only one time, even for the same patient.
- When performing TPIs, uses a new sterile needle for each TPI site.
- Confirms that a facility procedure room cleaning process is present.
- Communicates with appropriate facility personnel to determine procedure room preparedness for patient care.
Infection Risk Assessment

- Describes absolute and relative contraindications for the performance of the planned NSPM procedure.
- Describes disease states that increase patient risk for developing an infection post-procedure.
- Describes signs and symptoms consistent with a systemic or localized infection.
- Assesses the patient for signs and symptoms consistent with a systemic or localized infection.
- Determines the patient’s level of exposure to environmental microorganisms (e.g., MRSA).
Quality Assurance/Quality Improvement

- Collects patient- and procedure-specific information.
- Analyzes database information to assess services performed.
- Uses database information to improve care processes.
- Uses database to track patient outcomes.
- Reviews facility policies concerning infection prevention annually.
- Adheres to facility infection prevention and control policies.
Research
Recommendations

- Identify number and geographical distribution of pain practitioners
- Identify breadth/complexity/best practices of procedures performed
- Describe pain practitioner role in interprofessional team
Research Recommendations

- Identify pain foundational education/training and use to develop a certification process
- Assess relationship of patient position and use of maximal sterile barrier precautions on infection rates
Education

Recommendations

- CE content development focused on:
  - Pain best practices
  - Adherence to CDC guidelines
  - Emerging infectious agents
  - QA/QI database participation

- Targeted CE programs mapped to increasing procedural complexity and years in pain practice
Thank You