STATEMENT BY AUTHOR

This report has been submitted in partial fulfillment of requirements for an advanced degree at The University of Arizona and is deposited in the University Library to be made available to borrowers under rules of the Library.

Brief quotations from this report are allowable without special permission, provided that accurate acknowledgment of source is made. Requests for permission for extended quotation from or reproduction of this manuscript in whole or in part may be granted by the head of the major department or the Dean of the Graduate College when in his or her judgment the proposed use of the material is in the interests of scholarship. In all other instances, however, permission must be obtained from the author.

Signed: _______________________________

APPROVAL BY MASTER'S PROJECT DIRECTOR

This report has been approved on the date shown below:

____________________  ____________________
Neva L. Crogan, PhD, APRN, BC       Date
Assistant Professor of Nursing
ACKNOWLEDGEMENTS

Dr. Neva Crogan and Donna Jaryzna have served not just as committee members, but as invaluable resources and sources of support throughout the development, implementation, and evaluation of this project. I sincerely appreciate their efforts on my behalf.

Karen Niles and the entire staff of Northwest's Orthopedic/Surgical unit have unflaggingly cheered me on in my quest for a Master's degree. Without their support and willingness to participate, this project would not have come to fruition. My heart felt thank you to one and all.

Finally, and most importantly, I am richly blessed with a husband, son, and daughter who not only support my endeavors, but never harbor any doubts that I won't achieve the goal I have set before myself. Thank you is insufficient in proportion to their belief in me.
# TABLE OF CONTENTS

LIST OF FIGURES............................................................................................................7

LIST OF TABLES..............................................................................................................8

ABSTRACT........................................................................................................................9

1. INTRODUCTION........................................................................................................10
   Nature of the Problem............................................................................................10
   Pain Assessment....................................................................................................19
   Problems in Geriatric Pain Assessment.............................................................11
   Geriatric Pain Management...............................................................................17
   Purpose Statement.................................................................................................19
   Statement of Significance.....................................................................................20
   General Significance of Pain...............................................................................22
   Significance of Pain Management Education in Nursing.................................22
   Summary................................................................................................................25

2. BARRIERS IN PAIN MANAGEMENT.....................................................................25
   Introduction............................................................................................................25
   Barriers in Pain Management...............................................................................25
   Educational Strategies..........................................................................................30
   Essential Components of Continuing Education Curricula...............................32
      Content Map........................................................................................................33
   Summary................................................................................................................33
3. THEORETICAL FRAMEWORK ..................................................................................40
   Purpose ..................................................................................................................40
   Scope ....................................................................................................................40
   Concepts ..............................................................................................................40
   Theoretical Relationships ....................................................................................41
   Metapardigm Concepts .......................................................................................42
   Guidance in Nursing Education .......................................................................43
   Summary .............................................................................................................44

4. PLAN FOR CONTINUING EDUCATION PRESENTATION ..................................46
   Teaching Plan ..................................................................................................46
      Introduction ....................................................................................................46
   Methods ..............................................................................................................46
      Recruitment ....................................................................................................46
   Lesson Plan .......................................................................................................46
      Learning Objectives .....................................................................................46
      Activities ........................................................................................................47
      Lesson ............................................................................................................47
      Part One ..........................................................................................................48
      Part Two ..........................................................................................................48
      Part Three ....................................................................................................49
      Part Four ........................................................................................................49
TABLE OF CONTENTS - Continued

4. PLAN FOR CONTINUING EDUCATION - Continued

Instruments..................................................................................................................49

   Reliability and Validity of Instruments.................................................................50

   Summary...............................................................................................................51

5. DISCUSSION...........................................................................................................52

   Introduction...........................................................................................................52

   Sample.................................................................................................................52

   Description of Sample, Results of Brief Pain Surveys.................................52

   Results of Geriatric Pain Management Survey Supplement........................55

   Limitations.........................................................................................................57

   Conclusions.......................................................................................................58

6. IMPLICATIONS AND CONCLUSIONS................................................................60

   Introduction.......................................................................................................60

   Significance to Nursing.......................................................................................61

   Summary..............................................................................................................62

APPENDICES...........................................................................................................63

   Appendix A:

   Copy of Brief Pain Surveys as Submitted to Program Participants..............63

   Appendix B:

   Copy of Geriatric Pain Management Survey Supplement..........................71

REFERENCES.........................................................................................................74
LIST OF FIGURES

Figure 2.1, Content map/outline for Geriatric Pain Management program .....................35

Figure 3.1, Theoretical framework for Geriatric Pain Management program...............45
LIST OF TABLES

Table 5.1, Results of Geriatric Pain Management Survey Supplement..........................59
ABSTRACT

The purposes of this paper are to 1) synthesize literature relevant to pain assessment in the acute post operative geriatric client; 2) describe the presentation of this synthesized literature to Northwest Medical Center's Orthopedic/Surgical unit staff; and to 3) evaluate the learning objectives for the program presented.

Each year, approximately 14 million elders, 65 years of age or older are hospitalized. Management of pain following surgical procedures is critical to an elders expeditious and optimal recovery. Provision of effective pain management in the geriatric client is, at a minimum, a function of adequate knowledge. Synthesized research information regarding acute geriatric pain management was presented during a continuing education program as useful, practical, and applicable material for nurses on Northwest's Orthopedic/Surgical unit. Mastery of this information was then measured via pre and post program survey results.

Program evaluation found that nurses need continuing education programs to hone and improve their knowledge of pain management. Administration should encourage and provide support for nurses to reinforce and expand their pain management knowledge, while simultaneously holding nurses accountable for acute pain management. The nurse is the key player in the management of elder acute post operative pain.
CHAPTER ONE

INTRODUCTION

The purpose of this chapter is to synthesize literature relevant to pain assessment in the acute post operative period in the geriatric population. The information synthesized will be presented in a continuing education program to nursing staff on Northwest Medical Center's Orthopedic/Surgical (Ortho/Surg) unit. This chapter is divided into sections which will review the literature regarding pain issues in the geriatric population, underscore the significance of pain as a post operative problem, and describe the need for continuing nursing education in the assessment and management of pain in the acute post operative geriatric population.

Nature of the Problem

_Pain Assessment_

Discrepancy between a patient's perception of pain and the clinician's perception of the patient's pain is the most powerful predictor of poor pain management (Curtiss, 2001). Inadequate treatment of pain is almost universally due to the clinician's poor pain assessment skills (Curtiss, 2001). Pain, now widely regarded as the fifth vital sign, should be part of a nurse's routine patient assessment. Knowledge of, as well as skill in using, appropriate pain assessment tools is no less critical than those required for other physiologic processes.

Various assessment tools are used to facilitate translating a patient's complex, subjective experience of pain into a quantitative measurement used to guide treatment. Two commonly used measurement scales include the Visual Analog Scale (VAS) and the
Oral Numeric Pain Rating Scale (ONPRS) or Numeric Rating Scale (NRS) (Taylor & Herr, 2003). The VAS scale consists of a 10 centimeter line with each centimeter delineated by a number, so that the numbers 0 to 10 appear under the line. Often, anchor words are used at each end. The VAS may include the words "No pain" at one end and "The worst pain imaginable" at the other (Bergh, Sjostrom, Oden, & Steen, 2000, p. 380). The VAS can also be presented to the patient in a similar but verbalized format, in which case it is known as the ONPRS or NRS (Good, Stiller, Zauszniewski, Anderson, Stanton-Hicks, & Grass, 2001). For example, a patient might be asked, "On a scale of 0 to 10, with 0 being no pain and 10 the worst pain you've ever experienced, where would you place your pain level right now?".

Additional pain scales used in special populations include the Faces Pain Scale (FPS) and FLACC Nonverbal pain scale (Taylor & Herr, 2003). The FPS allows young children to rate their pain from 0 to 10 with a progressively sadder face indicating the severity of their pain. The FLACC: Nonverbal pain scale, which can be used with preverbal or nonverbal patients, estimates the patient's pain level by attaching numeric equivalents to the observed nonverbal cues in the patients face, legs, activity, cry, and degree of consolability (NMC, 2000). Thus, the aim of any pain rating scale is to facilitate translating the patient's subjective experience of pain into a quantitative, numeric measure, to facilitate appropriate pain management and control.

Problems in Geriatric Pain Assessment

There are unique problems surrounding the assessment of pain in the geriatric population. Studies have found a correlation between age and the inability to provide a
reliable rating on the VAS (Bergh, Sjostrom, Oden, & Steen, 2000). "The probability of agreement between the patient's ratings of pain and verbal report of PAH [pain ache or hurt] tended to decrease with advancing age..." (Bergh et al., 2000, p. 380). Why is unclear. Undoubtedly, it is in part due to sensory impairments such as vision and hearing loss in elder patients. Graphing the results of the probability of accomplishing a pain rating as a function of age generates a diminishing curve, with a rapid decrease in probability starting at age 75 (Bergh et al., 2000). This was true for the NRS, a graphic rating scale and the VAS, but for the VAS in particular (Bergh et al., 2000). Nurses need to be aware that the exclusive use of the VAS to rate pain in some members of the geriatric patient population can lead to unreliable results (Bergh et al., 2000).

Nurses also need to be aware that pain itself influences an elder's ability to receive instruction in the use of a pain scale. Pain can interfere with the concentration required to arrive at a number when attempting to self-report pain, particularly on the NRS (Bergh et al., 2001). Furthermore, post operative confusion, cognitive impairments, and dementia all increase in incidence with age and can present significant barriers to using the NRS (Closs, 1994).

In assessing geriatric patients in whom postoperative confusion, cognitive impairments, or dementia exist, nurses often rely on observable behavior to achieve a pain rating. The FLACC Non-verbal pain scale, designed for use with non-verbal patients, tends to be used on Northwest's Orthopedic/Surgical Unit for both non-verbal patients and those from whom a reliable rating on the NRS is perceived as unattainable (personal communication, Diane Walters, October 28, 2003). Unfortunately, observable
behavior alone is the least reliable as determinates of pain (Closs, 1994). Clues that nurses might look for which indicate pain; such as facial grimacing, guarding of body regions, clutching, and groaning, are not reliable signs of pain (Closs, 1994). The patient can exhibit these same behaviors when anxious or depressed, both of which are more common in the elderly (Closs, 1994). The phenomena of grimacing, guarded posturing, and clutching or rubbing painful regions is influenced by a patient's coping style and their social or cultural background (Closs, 1994). "Importantly, the absence of pain behavior does not rule out the presence of pain" (Closs, 1994, p. 1074).

Bergh and Sjostrom discovered additional drawbacks to assessing geriatric pain without the input of the patient (1999). Their study asked elders, instructed in the use of the VAS, to rate their current pain level, their pre-hospitalization pain level, and the level at which they would like pain medication to be administered (Bergh & Sjostrom, 1999). Nurses, subsequently and separately, were then asked to indicate their observed estimation of the elder subject's current pain level and the point at which pain medication should be administered, again using the VAS (Bergh & Sjostrom, 1999). While this was a small study involving only 39 elders, aged 78 to 91, the final assessment of data would suggest that nurses tend to overestimate a patients' mild pain and underestimate severe pain when attempting to estimate pain levels by observable indicators alone.

The Bergh and Sjostrom study also concluded that there are significant differences between nurse's and patient's views regarding when pain should be treated (1999). Statistics generated during the study indicated that pain tolerance is a very individual experience (Bergh & Sjostrom, 1999). These conclusions are supported by
Carpenter and Brockopp's earlier study which compared patient's ratings of pain with nurse's ratings (1995). In this study, three aspects of pain assessment and management were examined: the correlations between patients' responses on a 0 to 5 point NRS and a 10 centimeter VAS; the influences of the differing scales on nurses' decisions regarding pain medication; and the differences between nurses' and experts' medication choices based on a patient's self-report of pain (Carpenter & Brockopp, 1995).

Significant differences were found in patient's responses to the different pain scales, despite the administration of the scales within minutes of each other. Only 24% of the rating pairs obtained were mathematically equivalent (Carpenter & Brockopp, 1995). Further, treatment choices by nurses were consistent between the two scales only when the patient's pain was severe, or at the extreme end of either pain scale (Carpenter & Brockopp, 1995). Given the variability of responses from both patient and nurse when mathematically unequal scales are used, the author's correctly conclude that consistency in the application of mathematically equivalent scales is an important factor in the appropriate management of pain (Carpenter & Brockopp, 1995).

Other influences on the treatment of pain in the elderly include the mistaken notion that the geriatric patient's perception of pain diminishes with age (Closs, 1994). "Experimental studies of pain tolerance and thresholds have not shown any consistent age-related changes" (Closs, 1994, p. 1073). "Some researchers suggest that there is a change in the pain quality, not the intensity, in older adult patients" (Larsen, 2000, p. 205). Nurses need to be aware that geriatric patients may perceive, and therefore report,
pain differently from their younger patients. This does not mean, however, that the level of pain experienced is quantitatively different.

Pre-existing painful conditions, such as arthritis, also influence the ability to assess pain in the geriatric patient. Studying the applicability of three pain rating scales, Bergh et al., discovered that several elderly subjects did not identify their experience as Pain, Ache, or Hurt (PAH), despite providing the investigators with a pain scale rating (2000). It was thought possible elderly patients must have the experience of pain reach higher levels "...than that which corresponds to the mild pain they experience daily..." before they will label it pain, ache, or hurt (Bergh et al., 2000, p. 385). This would imply that the pain-evaluating process will be improved by using additional discriminating information and soliciting the elder for a wide variety of expressions of pain, ache, and hurt (Bergh et al., 2000).

Studies of patients with cognitive impairments and/or Alzheimer's disease have demonstrated that they also express their pain (Closs, 1994). Manz, Mosier, Nusser-Gerlach, Bergstrom, and Agrawl conducted a study seeking to determine the relationship between cognitive function and the ability to use a self report pain assessment tool (2000). The study evaluated 100 individuals, aged 65 to 99, with no dementia (36%), mild to moderate dementia (21%), and severe dementia (43%). Using the NRS, FACES, and a type of verbal descriptor scale (as well as other less frequently used scales), Manz et al., discovered that despite "...a wide range of ages and levels of physical functioning and cognitive abilities...pain assessment tools can and should be used with most elderly patients" (2000, p. 9). This study supports the use of pain assessment tools when
assessing cognitively intact elders as well as those with mild to moderate levels of
cognitive dysfunction (Manz et al., 2000).

Taylor and Herr's study of 57 adults, aged 57 to 97, also concluded that
cognitively impaired older adults are capable of completing one or more pain assessment
scales (2003). Interestingly, however, this study revealed two significant trends in the elder population. First, the pain level indicated on any pain assessment tool decreased as cognitive impairment increased (Taylor & Herr, 2003). Second, mild to moderately impaired individuals display a preference for the FPS (Taylor & Herr, 2003). While almost 40% of the subjects did not have a preference for a pain assessment tool, when they did, the FPS or the Verbal Descriptor Scale (VDS) was preferred (Taylor & Herr, 2003).

The VDS, also one of the more commonly used scales in the United States, uses simple adjectives to describe different levels of pain intensity, ascribing a numeric equivalent to each adjective used (Taylor & Herr, 2003). For example, no pain (0), mild pain (1), moderate pain (2), severe pain (4), extreme pain (6). It is thought that the VDS is an appropriate scale for older cognitively impaired adults because it uses the simple process of word association (Taylor & Herr, 2003).

Melzack, (1975) in his seminal study of verbal pain description, established that certain words are consistently associated with a discrete level of pain severity. He developed a verbal descriptor scale with equivalence to a 0 to 10 analog scale. More recently, Fernandez and Towery (1996) confirmed that Melzack's verbal descriptors can be used reliably to discern quantitative differences in pain intensity. In both studies, it
was determined that certain words are consistently associated with specific pain intensity ratings on an analog scale, such as the VAS. Thus, knowing these descriptive words, nurses can facilitate an elder's expression of pain by performing an association between the descriptive word used by the elder with a numeric intensity rating, without the elder having to conceptualize an analog scale.

It is important to note here that the scales used in the Taylor and Herr study were not mathematically equivalent. The FPS scale used was based on an equivalence of 0 to 10, and the VDS used in their study, on an equivalence of 0 to 6. This is significant, as the inverse relationship between cognitive function and pain level identified may actually be a lack of mathematical correlation between scales.

Manz et al., (2000) also set out to determine if there was a preferred pain scale among the geriatric population in their study. To their surprise, there was not. Cognitively intact elders indicated that any of the scales tested was equally utilizable in describing the presence and intensity of pain experienced (Manz et al., 2000). The Manz et al., (2000) study supports the use of pain self-report tools as reliable indicators of pain in the elderly, even across various levels of cognitive function. Self-report pain assessment tools are, thus, appropriate for the vast majority of geriatric patients.

**Geriatric Pain Management**

"Unrelieved pain remains a major clinical problem" (Curtiss, 2001, p. 27). Older adults who experience many medical and surgical conditions can be expected to experience much of this unrelieved pain (Arder, Herr, Hannon, & Titler, 2003). In fact, data from studies would suggest "...that hospitalized older adults are at high risk for acute
pain" (Arder et al., 2003, p. 354). Nurses play an important role in the management of acute post operative pain. Unfortunately, studies would indicate that nurses consistently undermedicate hospitalized patients' pain (Larsen, 2000). Further, when comparing older adult patients with those of middle age undergoing similar painful procedures, nurses are more likely to undermedicate the hospitalized older adult patient (Larsen, 2000).

"Safe analgesia administration for older adult surgical patients is complicated by chronic disease, polypharmacy, and nutritional alterations" (Larsen, 2000, p. 206). When presented with vignettes in which a fictitious elder patient's prior opioid dose was safe but ineffective in controlling their pain, more than 50% of nurses responding did not increase subsequent fictitious opioid doses (McCaffery & Ferrell, 1997).

"Anxieties about respiratory depression have long been a factor in the under medication of postoperative patients" (Closs, 1994, p. 1076). Given appropriate opioid administration, the risk of respiratory depression in the geriatric population is not any more significant (Closs, 1994). Cheyne-Stokes respirations, often viewed as an indicator of respiratory depression, are not unusual in the older adult (Larsen, 2000). The presentation of this respiratory pattern should not be "...the primary reason to discontinue opioid analgesia, unless it is associated with unacceptable arterial oxygen levels" (Larsen, 2000, p. 207).

Nurses need to be aware that there are age related differences in analgesic effect. Older patients are known to receive a greater analgesic effect from painkillers than younger patients with comparable conditions (Closs, 1994). Separate studies have found an inverse relationship between self-administered morphine consumption and age (Closs,
Geriatric patients have demonstrated four times the sensitivity to opioid analgesics as compared to younger patients in some cases (Closs, 1994). This is due to the altered pharmakokinetics of the drugs; slowed metabolism, excretion, and elimination (Closs, 1994). In light of this, individualizing opioid doses in the geriatric population should be a guiding principle in geriatric pain management (Larsen, 2000).

Dispensing narcotics in a pattern which starts with the lowest available dose, 25% to 50% lower than that recommended for non-geriatric adults, is appropriate. If the patient does not achieve a tolerable pain level, the dosing should be slowly titrated up by 25% until a tolerable pain level is achieved (Larsen, 2000). Through this process, the nurse can balance the analgesic need of the patient against the undesirable side effects of the analgesic (Larsen, 2000). Increases should be made based on the geriatric patient's self-report of pain, rather than on arbitrary assumptions about the amount of opioid the geriatric patient 'should' receive (Larsen, 2000). Only when the nurse acknowledges that there is great diversity in the aging experience, leading to individualized evaluations of the elder; with consideration for their body size, health status, and self-report of pain, can pain in the acute post operative geriatric be managed appropriately (Dellasega, 2000).

Purpose Statement

The purpose of this report is to synthesize literature relevant to pain assessment in the acute post operative geriatric client, describe the presentation of this synthesized literature to Northwest Medical Center's Orthopedic/Surgical unit staff, and to evaluate the learning objectives for the program presented.
Statement of Significance

General Significance of Pain

"Surgery, trauma, and the pain associated with them, trigger a number of physiologic stress responses in the human body" (McCaffery & Pasero, 1999, p 23). Pain, the body's warning of imminent danger, evokes the 'fight or flight' response system. Thus, when under the stress of pain, the endocrine system releases hormones, such as adrenocorticotrophic hormone, cortisol, antidiuretic hormone, catecholamines, and glucagon (McCaffery & Pasero, 1999). This leads to a number of metabolic responses, several of which are significant for the geriatric patient recovering in the acute post operative phase.

Metabolic responses to pain include an increase in muscle protein catabolism and an increase in gluconeogenesis. Elders, often with little in the way of protein reserves, can ill afford the estimated 40% reduction in protein synthesis following surgery or trauma (McCaffery & Pasero, 1999). This reduction in synthesis has been observed to be attenuated, by almost half, through improved pain control (McCaffery & Pasero, 1999).

Activation of the sympathetic nervous system due to the release of catecholamines causes an increase in the post operative patient's heart rate, blood pressure, cardiac work load, and myocardial oxygen consumption (McCaffery & Pasero, 1999). The geriatric population, more likely to have diminished cardiac reserves, are acutely at risk for intolerance to the increased demands placed on their cardiovascular systems due to pain (Mitchell, 2002). Further, lower extremity arterial disease and the
risk factors for it are prevalent in seniors over 65 years of age (Woolley, 2002). This, coupled with decreased fibrinolysis due to pain induced sympathetic nervous system response, puts the acute postoperative geriatric patient at significant risk for developing a deep vein thrombi (McCaffery & Pasero, 1999).

Other systems affected by poorly controlled pain include the respiratory and gastrointestinal systems. Measurable pain induced respiratory system effects include reductions in tidal volume, decreased vital capacity, decreased functional residual capacity, decreased alveolar ventilation and decreased gastrointestinal motility (McCaffery & Pasero, 1999). "If adequate pain relief is not provided postoperatively, these effects can progress to significant pulmonary complications, such as atelectasis and pneumonia" as well as "temporary impairment of GI function and ileus" (McCaffery & Pasero, 1999, p. 26-27). The geriatric patient, with decreased cardiac and pulmonary reserves, is considerably more at risk for these pulmonary complications (Holzer & Warshaw, 2002). In addition, diminished peristalsis, normally present in gastrointestinal system of pre-surgical geriatric patients, predisposes them to ileus as a complication of unrelieved pain.

"The physiologic changes of aging can influence operative outcomes because they may increase the vulnerability of the elderly to the stresses of surgery" (Holzer & Warsaw, 2002, p. 184). Pain has a compounding influence on the physiologic alterations associated with aging. Reducing the risk of venous thromboembolism, cardiovascular deconditioning, atelectasis, pneumonia, ileus and loss of muscle mass through adequate pain management and early mobilization facilitated by adequate pain management is vital.
to a full and expeditious recovery in the acute postoperative geriatric patient (Holzer & Warsaw, 2002).

Significance of Pain Management Education in Nursing

Knowledge deficit has been identified as the most important barrier to effective pain control (Willson, 2000). "Many researchers argue that education is the answer to improved pain management" (Willson, 2000, p. 1146). Study results show that nurses with some training in pain management beyond basic nursing education demonstrate less deviation in their assessments of pain, greater stability in their responses to self reports of pain, and greater sensitivity to changes in a patient's pain level (Bergh & Sjostrom, 1999). The clinical implications of this are, first, that "nurses must acquire increased knowledge regarding pain and pain management", and, second, that current nursing practices surrounding the management of pain must change (Bergh & Sjostrom, 1999, p. 35).

One way to increase knowledge and influence current pain management practices is to facilitate the incorporation of research-based knowledge into clinical practice (Bergh & Sjostrom, 1999). "Practicing nurses will be more open to change in their care if they see that researchers are addressing the issues of importance to patient care" (Dufault, Bielecki, Collins, & Willey, 1995, p. 643). Thus, the presentation of synthesized research literature regarding the management of geriatric pain to nurses on Northwest Medical Center's Orthopedic/Surgical unit will positively influence current pain management practices. Nurses on the unit will recognize that through appropriate geriatric pain
management they can effect a significant impact on those outcome measures which are influenced by pain control and its impact on early mobilization.

Summary

Each year, approximately 14 million elders (65 years of age or older) are hospitalized (Center for Disease Control [CDC], 2000). Operations involving the musculoskeletal system will be performed on 1.2 million of these elders (CDC, 2000). Some of these surgeries will follow on the heels of a traumatic fracture while others are elective, such as replacing a degenerated joint, often the knee or hip. Despite elders representing only 12.4% of the total population, elders comprise the largest share of an orthopedic unit's census (Hobbs & Stoops, 2002). The management of pain following an elder's orthopedic surgical procedure is critical to expeditious and optimal recovery.

"Poorly controlled pain can impede recovery from ...surgery" (Closs, 1994, p. 1075). By impacting the immune system negatively, pain impedes recovery by increasing the risk of infection (King, 2000). Hypercoagulation, increased cardiac work load, pneumonia, and atelactasis are just a few of the significant negative effects poorly controlled pain exerts on the body (McCaffery & Pasero, 1999). Pain which inhibits movement delays early ambulation, leading to muscle atrophy, pressure sores, and further increases the risk of deep vein thrombosis (Closs, 1994). Clearly, from an economic perspective, poorly controlled pain in elders leads to longer hospital stays and to the development of co-morbid conditions, increasing the economic and human costs of recovery.

Improved pain management in the geriatric acute post operative population can
minimize the reluctance to mobilize in the post operative phase. This in turn will reduce
the geriatric patient's risk for muscle atrophy, cardiovascular deconditioning, pneumonia,
atelactasis, and the sequelae of venous stasis. Early post-surgical ambulation is a
necessity if the geriatric patient is to be rehabilitated expeditiously. "In order to achieve
this, pain must be well controlled" (Closs, 1994, p. 1075). Improving the management of
pain in the geriatric patient should be a priority and nurses need to develop awareness of
empirical research expanding their knowledge about the assessment and management of
geriatric pain (Bergh & Sjostrom, 1999).
CHAPTER TWO

BARRIERS IN PAIN MANAGEMENT

Introduction

This chapter will examine: 1) barriers to the provision of effective pain management (lack of adequate knowledge and understanding of basic pain management principles among healthcare providers, misdirected perceptions regarding pain, organizational pressures, and the influence of personal judgements on learning about pain management); 2) strategies in educating nurses regarding pain management; and 3) essential components for a continuing education curricula reinforcing basic pain management principles.

Barriers in Pain Management

"Despite the proliferation of research in pain management in the past 20 years, patients are still suffering unnecessary pain" (Twycross, 2002, p. 2). Studies continue to document the under treatment of pain and conclude, "...the reason for failing to administer adequate analgesia [is], fundamentally, nurses poor knowledge base" (Willson, 2000, p 1146). It is fair to say that nurses, without the knowledge to fulfil their function in appropriate pain management do not recognize their important role in pain relief (Willson, 2000). Because pain is often viewed as an expected outcome of many medical (and certainly most surgical) procedures, pain management does not assume high decision making priority. This lack of pain management 'ownership' is compounded by the fact that nurses also consider pain management to be the responsibility of the physician (Twycross, 2002). "Nurses seem to assume that physicians know the analgesic
requirements of a patient in advance of their prescribing them and do not appear to embrace their vital role in the titration of opioid doses" (McCaffery & Ferrell, 1997, p. 175).

"Pharmacologic management of pain remains an area in which nurses lack the requisite understanding to provide optimal and consistent treatment" (Clarke, French, Bilodeau, Capasso, Edwards & Empoliti, 1996, p 19). Research has documented inadequate formal education in the arena of understanding opioid properties, equivalent dosing and medication side effects (Clarke et al, 1996). Ironically, surveyed nurses have consistently rated their basic nursing education in pain management as adequate (Wallace, Reed, Pasero, & Olson, 1995). Yet, studies have found that as little as four hours was devoted to pain management in roughly half the baccalaureate programs surveyed (McCaffery and Ferrell, 1995). Further, many respondents in the Wallace et al (1995) study of nurse's perceived barriers to effective pain management, indicated they had actually devoted even fewer hours to the study of pain in their formal education. Despite this, most felt themselves adequately prepared for analgesia administration (Wallace et al, 1995).

This disconnect between perceived and actual understanding of pain management is demonstrated in nurses poor performance on exams evaluating their knowledge of pain management (Cason, Jones, Brock, Maese, & Milligan, 1999). This indicates that nurses "...judgement is not a valid indicator of [their] knowledge" (Cason et al, 1999, p 6). This certainly lends credence to Heye and Goddard's (1999) view that "many practitioners do
not recognize their own inadequacy and, therefore, do not see the need to change their pain management practice”.

Other misdirected perceptions act as barriers and influence pain management practices in specific areas. Significant for the nurses on Northwest Medical Center’s Orthopedic/surgical unit, research indicates that there remains persistent expectations among nurses and physicians alike, that all post operative pain will subside rapidly within the first three days, becoming negligible by the fourth day. This misdirected perception persists despite any empirical evidence that such an invariable pain pattern exists (Clarke et al., 1996).

Assumptions regarding post operative pain may be attributable in apart to inadequate and inaccurate assessment of pain. There continues to be a "...lack of primary reliance on the patient's self report of pain" (Clarke et al., 1996, p. 20). A substantial 44% of the participants in Brunier, Carson, & Harrison's (1995) study of what nurses know and believe about patients with pain felt that estimation of pain by physicians and nurses was superior to the patient's self-report of pain. "Disagreement between the health-care professional and the patient regarding the patient's pain intensity is one of the most significant predictors of inadequate analgesic therapy" (McCaffery & Ferrell, 1997, p. 183). The problem of inaccurate assessment or assumed pain level is particularly acute for post operative geriatric patients with dementia, for whom nurses routinely estimate pain levels regardless of the patients ability to communicate a self report of pain (Ardery, Herr, Hannon, & Titler, 2003).
Further confounding the picture of postoperative pain is the failure of nurses to document on-going pain assessments (Clarke et al., 1996). Nurses routinely fail to document the efficacy of pain medications administered, which, when coupled with inappropriate and inadequate pain assessments, makes the degree to which a patient's postoperative pain is being appropriately managed hopelessly indeterminate (Clarke et al., 1996).

While pain is widely believed to be a subjective phenomena, studies have indicated that nurses' inferences and perceptions are different from the patient's and are influenced by their own beliefs about pain and suffering (Brunier et al., 1995). Negative attitudes and knowledge deficits continue. "Popular press, high-profile celebrity cases and national columnists have propagated inappropriate attitudes toward drugs and pain relief" (Heye & Goddard, 1999, p. 2). Research has documented that misinformation regarding tolerance, addiction and the difference between the two persists among healthcare providers and patients alike (Heye & Goddard, 1999).

The inferences and perceptions which influence pain management decisions are central to Greipp's ethical model examining the under-medications of patients in pain (Heye & Goddard, 1999). This model, which postulates pain is not only a subjective experience but that pain management occurs within a subjective environment. It identifies "learned potential inhibitors" (LPIs) which the nurse and patient bring to the pain management milieu (Heye, 1999). These LPIs include personal experiences, background, and belief patterns as they relate to pain (Heye & Goddard, 1999). For nurses specifically, these include previous pain management experiences, both positive
and negative, personal and professional, as well as belief systems central to his/her own cultural background (Heye, 1999). The Greipp model acknowledges the presence of a pain management milieu in which more than just the assessed pain 'score' is influencing pain management decision making.

While the Greipp model focuses on nurse centered perceptions as they influence pain management decision making, other influences, external to the nurse also have been identified. In studying the factors which affect analgesia administration in post operative hip fracture patients, Willson (2000) reports there is an interplay of a number of factors. Analgesia administration decisions made by nurses were thought to be influenced by time (e.g., the shift worked), people (e.g., the staff), environment (e.g., the shift routine), and the situation (e.g., the surgery performed, the physician orders, or hospital policy) (Willson, 2000). The study concluded that time was the most significant influence on analgesia administration decision making (Willson, 2000).

The timing of drug rounds, the period of time worked (i.e., shift), time specified routines in analgesia reduction, and the time constraints of administering care while maintaining organizational obligations, such as charting, were acknowledged influences on analgesia administration by the nurses participating in Willson's (2000) study. Willson (2000) concluded from these nurse identified influences that "the administration of analgesia...will remain problematic as long as it is driven by ...organizational pressures" (p. 1153).

Willson is not alone in her sense that sub-optimal pain management is influenced by organizational factors such as workload, legal or institutional constraints and
inadequate prescriptions. Stomberg, Joelsson, Sjostrom, & Halijamae (2003) found that through collaborative efforts between anesthesiologists, surgeons, and nurses, these factors could be surmounted and a more optimal level of post operative pain management (POPM) could be achieved. However, Stomberg et al., (2003) acknowledge that "...ward nurses have a central role in POPM. [The] education of the nursing staff in pain assessment, documentation, and therapy is consequently of major importance in making pain visible and properly treatable..." (p. 21). In short, effective pain management is influenced by factors both internal and external to the nurse but this does not devolve the need for nurses to claim ownership of their critical role in pain management.

Educational Strategies

Central to addressing pain management education is an assessment of current knowledge (Heye & Goddard, 1999). While nurses may have "...theoretical knowledge about pain management this does not necessarily mean that they are able to use this knowledge in practice. However, if they do not have the theoretical knowledge which underpins the skill of pain management, they [nurses] will be unlikely to be competent practically in this area" (Twycross, 2002, p. 2).

Educational efforts directed at nurses seem to have contributed to improving their knowledge of pain management (McCaffery & Ferrell, 1997). Nurses who attend pain management program training score significantly higher on the Nurses Knowledge and Attitude Survey (NKAS) then those who do not (Brunier et al., 1995). McCaffery & Ferrell's (1997) contend that "as a whole, it appears that the longer nurses are exposed to
correct information about pain management, the better their knowledge level becomes" (p 184). A comprehensive teaching plan which incorporates correct, current pain management information will yield positive results which will be reflected in patients satisfaction with care (Clarke et al., 1996).

Pain knowledge survey tools are useful in determining what knowledge deficit areas exist and with what frequency among nursing staff. Through the survey results, pain management classes can be planned to address deficient knowledge and correct misperceptions (Heye & Goddard, 1999). In addition, they are useful for promoting participation in the class when scores are compared and discussions focus on those questions answered incorrectly by a majority of the group (Heye & Goddard, 1999).

"Research studies, case studies and vignettes are valuable tools to help nurses apply information about pain management" (Heye & Goddard 1999, p. 6). Presenting cases in which pain management was optimal provides examples of good care as well as identifying opinion leaders on the unit (Cason et al., 1999). The use of case studies is a way to develop critical thinking skills, reinforce formal education in pain management, and explore clinical situations in a safe setting (Twycross, 2002). Further, case studies can be designed to reflect patient or unit specific situations, which increases the relevance for nurses working with that population or on that unit.

Case studies of patients whose pain was exceptionally well managed provide examples of excellent care. More important is to contrast these patients with those whose pain was not well managed. In performing this exercise, the influencing factors central to pain management on the unit can be identified (Cason et al., 1999). Strategies for
strengthening those factors which facilitate positive pain management principles, as well as those inhibiting the process can be discussed (Cason et al., 1999). This process of critical thinking regarding pain management decision making in the nurses working environment is actively demonstrated to staff through case study discussions.

**Essential Components of Continuing Education Curricula**

If nurses are to be competent in pain management practices, continuing education must provide an opportunity for updating and expanding theoretical knowledge (McCaffery & Ferrell, 1997). It should identify and clarify the pain management needs of special populations. Pain management education encourages the adoption of appropriate attitudes and to dispel erroneous perceptions. Ultimately, the goal of pain management continuing education is to establish the important function the nurse has in effective pain management as well as to link knowledge about pain and its management to the role of the professional nurse.

Pain and pain management are rapidly developing sciences (McCaffery & Ferrell, 1997). It is important to ensure that nurses "...have the knowledge and skills to manage pain effectively" (Twycross, 2002, p. 9). Pain and pain management continuing education initiatives should include the evolving information in the field. The changes in practice which are influenced by the evolving information from research should be considered during any continuing education presentation on pain management (Twycross, 2002).

Research based knowledge regarding the management of pain in special populations is just beginning to evolve. Nurses who interact with these populations...
should be aware of current, accurate information regarding this research. The implications of the research and how it will affect their pain management efforts on behalf of these unique groups of patients should be considered during pain management continuing education.

Inaccurate and irrelevant information about pain and its management lead to inappropriate attitudes and misperceptions (McCaffery & Ferrell, 1997). Clarification of pain associated definitions, especially those often misunderstood or influenced by culture, should be done during all pain management continuing education programs (McCaffery & Ferrell, 1997). This serves to reinforce clinically significant pain related definitions and to dispel the inaccurate and often irrelevant information about pain which may exist in a society.

The introduction to and use of clinical practice guidelines, as well as re-familiarization with existing pain management policies, identifies both best and expected practices. Reinforcing the use of guidelines and policies in everyday pain management practices emphasizes the priority that the organization places on delivering quality care. Thus, the relationship between 'best' pain management practices and the delivery of quality care becomes solidified for the nurse. A relationship is established between the role of the professional nurse and the effective management of their patient's pain.

Content Map

See Figure 2.1 for a description of course objectives, content, and teaching methods used in the geriatric pain management continuing education course.

Summary
The provision of effective pain management is a function of: 1) adequate knowledge and understanding of basic pain management principles, 2) the development of critical thinking skills in applying pain management principles, 3) a recognition of internal and external influences on pain management, and, 4) the application of current research based interventions. Continuing education (CE) provides a medium through which nurses can be encouraged to embrace their central role in the management of pain. CE provides the vehicle to update theoretical as well as practical knowledge and it solidifies the importance of pain management in the provision of quality patient care.
Figure 2.1. Content map/outline for Geriatric Pain Management Program.
### Content Map/Outline for Continuing Education in Geriatric Pain Management

<table>
<thead>
<tr>
<th>Objective</th>
<th>Content</th>
<th>Time Frame</th>
<th>Teaching Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Introduction to geriatric pain management</td>
<td>Welcome, collection of pre-intervention surveys, sign-in and very brief discussion of topics that will be explored: 5 minutes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>II. Instructional goals and outcomes</td>
<td></td>
<td>10 minutes</td>
<td>Part 1 of case study:</td>
</tr>
<tr>
<td>A. Articulate the physiologic changes which occur in pain and their effect upon post operative outcomes.</td>
<td>Pain and the release of catecholamines, epinephrine, norepinephrine; the 'fight or flight' response. Pain affects almost all physiologic domains and impacts post operative outcomes. Metabolic responses to pain depletes protein reserves, increases gluconeogenesis, and increases insulin resistance. Increased cardiac work load and myocardial oxygen consumption in population with diminished cardiac reserves. Decreased fibrinolysis occurs in population with higher arterial disease risk factors increasing deep vein thrombi risk. Pain inhibits movement imposing.</td>
<td></td>
<td>Guided discussion using table exploring physiologic responses to pain in <em>Pain, A Clinical Manual</em> (McCaffery &amp; Ferrell, 1999, p 26) Solicit personal experiences observing these phenomena in post operative patients Solicit personal experiences observing the effects of aging in tolerating the physiologic responses to pain Solicit personal experiences with the negative impact on post operative outcomes from delayed mobilization</td>
</tr>
<tr>
<td>Objective</td>
<td>Content</td>
<td>Time Frame</td>
<td>Teaching Method</td>
</tr>
<tr>
<td>-----------</td>
<td>---------</td>
<td>------------</td>
<td>----------------</td>
</tr>
<tr>
<td>B. Articulate the influences of aging and cognitive function on pain assessment and the steps to achieving a self report of pain in the geriatric population.</td>
<td>Deconditioning in population with limited conditioning reserves</td>
<td>10 minutes</td>
<td>Part 2 of case study:</td>
</tr>
<tr>
<td>1. Discuss what influences an elder's ability to use a pain scale.</td>
<td>• Pain, sensory impairments, cognitive impairments and dementia influence patient understanding of and capacity to use pain scales</td>
<td></td>
<td>• Guided discussion</td>
</tr>
<tr>
<td>2. Identify the pain scales which are appropriate to use in the geriatric population.</td>
<td>• Probability of accomplishing pain ratings on numeric pain scales diminishes in those over 75</td>
<td></td>
<td>• Solicit responses to questions in part 2 of case study</td>
</tr>
<tr>
<td>3. Describe the steps nurses can take to facilitate the expression of pain in elders.</td>
<td>• Pain is not an exclusive descriptor for the subjective experience of pain, elders may use other terms preferentially</td>
<td></td>
<td>• Solicit experiences in the use of pain scales with the elderly and elder pain 'terms' encountered in the past</td>
</tr>
<tr>
<td>4. Identify the influences affecting obtaining reliable ratings on non-verbal pain scales and the population for which non-verbal rating scales are appropriate.</td>
<td>• Chronic disorders, more common in the elderly, influences assessment practices</td>
<td></td>
<td>• Solicit experiences with elders with chronic painful conditions and how these impacted pain management</td>
</tr>
<tr>
<td></td>
<td>• Assessment practices should include selecting a tool based on the patient's preferences and cognitive/functional ability</td>
<td></td>
<td>• Solicit experiences with cognitively impaired elders</td>
</tr>
<tr>
<td></td>
<td>• Assessments should occur at least every 2 hours and through the night when pain is often heightened</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Use scales which are numerically equivalent, document scale used</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Objective</td>
<td>Content</td>
<td>Time Frame</td>
<td>Teaching Method</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------</td>
<td>----------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| C. Articulate the influence of aging on analgesia administration and the guiding principles in its use in the acute geriatric post operative patient. | - Identify age-related factors which complicate the administration of narcotics to elders.  
- Identify the criteria for discontinuing opioid analgesia in an elder.  
- Identify the contributing factors to post operative confusion in geriatric patients.  
- Describe age related differences in analgesic effect and how this influences analgesic administration in the elderly.  
- Consider the use of verbal description scale or FACES scale when geriatric patient's is unable to conceptualize pain as an analog scale  
- Research demonstrates nursings inability to accurately judge pain without patient report, non-verbal pain scales are last resort assessment tools  
- No evidence to support pain decreases with age or altered cognitive status  
- Greater peak and longer duration of action from analgesia related to age related alterations in kidney function  
- Drug interactions more common in elderly  
- In acute confusion, assess for other contributing factors prior to altering analgesic use (pain itself a common contributing factor)  
- Reduced total body muscle tissue mass in elderly may result in variable analgesic serum levels and toxicity with repeated intramuscular injections | 10 minutes | - Guided discussion  
- Solicit personal experiences related to acute confusion in an elderly patient  
- Solicit experiences with frequently ordered post-operative anticholinergic and antiemetic medications  
- Solicit experiences with de-conditioning in the elderly post operatively  
- Solicit experiences with difficult decision making regarding medication type, route, and dosage for post operative geriatric patients |
<table>
<thead>
<tr>
<th>Objective</th>
<th>Content</th>
<th>Time Frame</th>
<th>Teaching Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Antiemetics, anticholinergics may result in bowel/bladder dysfunction, confusion, and movement disorders</td>
<td></td>
<td></td>
<td>• Solicit experiences with negative outcomes to narcotic administration in geriatric post operative patients</td>
</tr>
<tr>
<td>• Initiate opioid therapy with 25 to 50% lower dose then adult recommended and titrate to effect by 25%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Monitor for respiratory depression (less than 10/minute), reduced arterial oxygen saturation (less than 85%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Cheyne-Stokes respirations during sleep without other adverse signs does not indicate need to reduce or stop opioids</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Assess for relief 30 minutes after parenteral, 60 minutes after oral analgesic administration and document using flowsheet</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

D. Articulate the policy regarding the assessment and management of pain at Northwest Hospital.
   1. Describe the policy at Northwest Hospital regarding the management of pain in any post operative patient.

<table>
<thead>
<tr>
<th>Time for validating learning: Posttest</th>
<th>Administer posttest: 10 minutes</th>
</tr>
</thead>
</table>
CHAPTER THREE
THEORETICAL FRAMEWORK

Purpose

The purpose of the Roy Adaptation Model (RAM) is to direct nursing practice, facilitate research and provide a framework for the development of nursing education (Boston College (BC): The Roy Adaptation Model: History, 2003). The RAM provides a language with which nursing can describe health care practice needs and guide research into basic nursing phenomena as well as guide the clinical practices related to that phenomena (Roy, 1990).

Scope

The scope of Roy's Model is generally considered to be at the level of grand theory/conceptual model (McEwen & Wills, 2002). In the scheme of categorizing theories based on their scope, the RAM is a theory which offers propositional direction for the profession in a scientific field (McEwen & Wills, 2002). The model has been used extensively to guide practice, to organize nursing education, and has provided the origin from which a number of middle-range theories were derived.

Concepts

"Within the Roy Adaptation Model, the key concept of basic nursing science is the life process of adaptation" (Roy, 1990, p. 34). This is the overarching principle of the RAM and guides assessment of client behaviors in four adaptive modes. These four adaptive modes serve as the framework for assessment. The physiologic-physical mode considers the integrity of the physiologic person as one aspect of adaptation. Similarly,
the self-concept-group identity mode includes life processes such as relating, feeling, and acting as motivators for psychologic and spiritual adaptation. The role function mode considers those roles which individuals occupy in society and the processes of relating to others and adapting to living within a society. Finally, Roy's interdependence mode assesses the adaptive potential of relationships as they affect individuals as well as groups.

Within the adaptive processes, the concepts of cognator and regulator subsystems are explored (Roy, 1990). These concepts address the coping processes involved (such as learning, judgment, emotion) in adaptation and address psychologic as well as physiologic responses respectively (McEwen & Wills, 2002).

Influencing cognator and regulator processes are the focal, contextual, and residual stimuli encountered within the environment (Mitchell & Pilkington, 1990). The RAM considers that these stimuli, or points of interaction between the environment and person, influence the adaptive processes (BC: RAM: History, 2003). These stimuli are internal or external agents which can be known or unknown and promote, influence, or inhibit adaptation (McEwen & Wills, 2002).

Theoretical Relationships

The major theoretical relationship in the RAM is that which exists between person and environment. The environment affects "...the behavior of humans as adaptive systems" (McEwen & Wills, 2002, p. 170). But, in the same moment, persons are seen as "...adaptive systems with cognator and regulator subsystems acting to maintain adaptation" (BC: RAM: History, 2003). This means that a person acts on their
environment in order to adapt while the environment is affecting both their capacity and the form of adaptation.

Other major relationships are those reflected in the stimuli Roy describes as confronting individuals or groups as they adapt. These stimuli, whether focal (or immediate), contextual (within the context of the environment or person) or residual (a stimuli present, but with an unknown effect), are simultaneously acting on and occuring in the environment (Mitchell & Pilkington, 1990).

Finally, the four adaptive modes Roy's model uses as a framework for assessment; physiological, self-concept, role function, and interdependence, are "...behavioral manifestations of regulator and cognator activity" (Mitchell & Pilkington, 1990, p. 81). "The regulator responds through organismic processes and the cognator through cognitive and emotive processes" (Mitchell & Pilkington, 1990, p. 81). In this way, a theoretical relationship is established between the observable process of adaptation and the psychologic and physiologic evolution of adaptation.

Metaparadigm concepts

In the RAM, persons are viewed as adaptive systems, imbued with innate coping processes (BC: RAM: History, 2003). The term 'persons' includes groups (families, communities, societies, etc.) as well as individuals.

The environment, as defined in the RAM, includes all of the circumstances and influences acting upon and affecting the "...development and behavior of persons and groups with particular consideration for mutuality of person and... resources" (BC: RAM: History, 2003, p. 4).
"Health [is] a state and process of being and becoming integrated and whole that reflects person and environmental mutuality" (BC: RAM: History, 2003, p. 4). Nursing is the science which promotes this mutuality by facilitating adaptation in persons within the four adaptive modes, and in so doing, contributes to health, the quality of person's lives, and the opportunity of person's to experience death with dignity (BC: RAM: History, 2003).

Guidance in Nursing Education

The RAM serves as a model for educating about the nursing assessment process (Senesac, 2003). It can be tailored to target a population or learner (Senesac, 2003). The key concept of the RAM; which considers nursing science as concerned with the process of adaptation, guides nursing education regarding the assessment of client behaviors in the four adaptive modes. This makes the RAM an excellent fit for a continuing education course which emphasizes understanding the pain assessment process and the influence of acute pain on the client's four adaptive modes as they recover from surgery. In addition, through education, nurses gain an understanding of how the post-surgical client's cognator and regulator subsystems affect the pain adaptation process.

The continuing education course in acute geriatric pain management focuses the nurse 'student' on adaptive modes and regulator subsystems known to be influenced by age, as evidenced in the literature. The coarse further clarifies the impact of nursing actions, or lack of them, on the geriatric client's pain adaptive processes. By providing research based evidence demonstrating the influence of stimuli on client adaptation to
acute pain, the course explains the impact of nursing interventions on the adaptive process, and consequently client outcome.

Summary

Roy's Adaptation Model provides the framework for the geriatric pain management continuing education course. This course, with its focus on the subjective phenomena of pain and the impact of pain on the process of post-surgical adaptation, clarifies appropriate nursing practice in the management of post-surgical pain. Through the material presented, the learner (i.e., the nurse) will understand how the nursing process can effect cognator and regulator subsystems, in the form of environmental stimuli, and thus influence adapting and coping in acute post operative geriatric patients.
Figure 3.1. Theoretical framework for Geriatric Pain Management Program.

Indicates action taken by the nurse to facilitate adaptation in each of the four adaptive modes through cognator and regulator subsystems.
CHAPTER FOUR

PLAN FOR CONTINUING EDUCATION PRESENTATION

Teaching Plan

Introduction

The continuing education program in geriatric pain management was presented to the nurses of Northwest Medical Center's Orthopedic/Surgical unit during one of three possible 40 minute programs on September 3rd, 2004. McCaffery and Ferrell's 'Brief Pain Surveys (Appendix A) and the Geriatric Pain Management Survey Supplement (Appendix B) were self-administered by participants prior to attending one of the three programs. Immediately upon completion of the continuing education program, the Geriatric Pain Management Survey Supplement was repeated.

Methods

Recruitment

Nurses on the Orthopedic/Surgical unit were recruited to participate in the program via e-mail and notices posted on the unit's general information board. Participants were informed that they would receive one credit towards required continuing education credits in geriatrics or orthopedics by completing the surveys and attending the program. All registered nurses, licensed practical nurses, case managers, and nurse managers were invited to attend.

Lesson Plan

Learning Objectives
At the conclusion of the program on acute post operative pain management in the geriatric population, participating nurses from Northwest Medical Center's Orthopedic/Surgical unit will be able to articulate the following:

1. The physiologic changes which occur when a patient is in pain and the effects of aging on physiologic responses.

2. The influences of aging and cognitive function on pain assessment and the steps to achieving a self report of pain in the geriatric population.

3. The influence of aging on analgesia administration and the guiding principles in the administration of pain medication to the acute geriatric post operative patient.

4. The policy regarding the assessment and management of pain at Northwest Hospital.

Activities

To accomplish the three objectives listed above, participating staff will:

1. Complete the Brief Pain Surveys developed by McCaffery and Ferrell, as well as the Geriatric Pain Management Survey Supplement.

2. Participate in the continuing education program.

3. Complete the Geriatric Pain Management Survey Supplement post program participation.

Lesson

Program training used a case study format and focused on the three objective areas of the lesson plan:

1. Physiologic changes in aging and pain.
2. Aging and pain assessment.

3. Aging and appropriate analgesia administration in elders.


*Part One*

Vera is an 84 year old Caucasian female who is admitted to the unit following the traumatic fracture of her right hip. On admission to the unit her vitals signs are: blood pressure 130/90, pulse 102, respiration 20, temperature 98.7, and pulse oximetry on room air 90%. She weighs approximately 115 pounds and is 5 feet 4 inches. Her lung sounds are clear over diminished and you note that she has weak, but palpable, bilateral lower extremity pulses. Her feet are cool to touch bilaterally. The remainder of her assessment is essentially negative.

1. What are some of the anticipated physiologic responses to the pain associated with a hip fracture?

   a. What is the basic physiologic response to pain?

   b. What are some of the hormonal responses to pain and what effect do they have systemically?

2. How are these physiologic responses affected by the aging process?

*Part Two*

Continuing your assessment of Vera, you ask her to rate her pain on a scale of 0 to 10, with 0 indicating no pain and 10 the worst pain imaginable. Initially you realize she was unable to hear you and note that she is hard of hearing. You repeat the question but Vera just responds that she just doesn't know.
1. What steps can nurses take to facilitate the expression of pain in elders?

2. What influences an elder's ability to use a pain scale?

3. Which pain scales are appropriate to use in the geriatric population?

4. What influences obtaining reliable ratings when using non-verbal scales such as the FLACC scale? When are these scales appropriate to use?

Part Three

Through investigation you learn that her right hip is just "throbbing dreadfully" and when you offer her pain medication, she accepts readily. She has no allergies. The Emergency Department physician has left orders for her to receive Meperidine 25 to 50 mg intramuscularly every 4 hours as needed for pain. However, her primary care provider just stopped in to see her and prescribed pain medication as well, Morphine 1-5mg intravenously every 4 hours as needed for pain.

1. What complicates the administration of narcotics to elders?

2. What should be the criteria for discontinuing opioid analgesia in an elder?

3. What contributes to acute confusion in post operative elderly patients?

4. What age related differences in analgesic effect do you need to be aware of when choosing analgesia?

Part Four

Review of pain management policy at Northwest Medical Center.

Instruments

The instruments used in this continuing education course included McCaffery and Ferrell's Brief Pain Surveys as well as the Geriatric Pain Management Survey.
Supplement developed for this training program.

Reliability and Validity of Instruments

The Brief Pain Surveys used in this continuing education program were derived from McCaffery and Ferrell's Brief Pain Survey tool. This tool, widely available and intended for educational purposes, was developed by McCaffery and Ferrell to be a composite of tools that includes key concepts from the Agency for Health Care Policy and Research pain guidelines, as well as the World Health Organization and the American Pain Society (McCaffery & Ferrell, 2004).

The principle instrument used the development of the Brief Pain Survey was McCaffery and Ferrell's own Nurses Knowledge and Attitude Survey (NKAS). The NKAS was developed by McCaffery and Ferrell as a 46-item survey tool that measures variables of knowledge and attitude regarding pain management (Howell, Buttler, Vincent, Watt-Watson, & Stearns, 2000). Content validity for this instrument was established by experts in pain management (Howell et al., 2000). Reliability of the NKAS, based on Cronbach's alphas for internal consistency, was greater than 0.70 for both knowledge and attitude items (Howell et al., 2000). Test-retest reliability for the NKAS was greater than 0.80 (Howell et al., 2000).

The NKAS supplies a substantial portion of the content found in McCaffery and Ferrell’s more widely available Brief Pain Survey tool, it does not, however, provide all of it and therefore its reliability and validity can not be conferred. Thus, the reliability and validity of McCaffery and Ferrell's Brief Pain Survey tool is untested and unknown (McCaffery & Ferrell, 2004).
The Brief Pain Surveys administered to participants of the acute geriatric pain management program was derived from McCaffery and Ferrell's Brief Pain Survey tool, which includes portions titled Pain Assessment/Behavior survey, Pain/Gender survey, Cancer Pain Information survey, Pain Addiction survey, and Brief Pharmacologic survey. Duplicate items and those not applicable to the acute post operative patient were eliminated. The result was an untested 53-item survey intended for use as a brief, practical survey tool to measure pain management knowledge and attitudes from program participants.

The Geriatric Pain Management Survey Supplement is based on the content map/outline for the continuing education program. The reliability and validity of this instrument has not been established nor has any psychometric testing been performed on the tool. The desired outcome is to simply evaluate the pre and post continuing education knowledge of program participants.

Summary

The primary focus of this program was to synthesize information about acute geriatric pain management and present it as useful, practical, and applicable material for nurses in a specific acute care setting. The project used a case study format, a viable learning method for nurses in acute care. This was appropriate for the targeted audience, where continuing education in pain management frequently takes the form of a self-learning packet.
CHAPTER 5
DISCUSSION

Introduction

The evaluation of learning objectives for the program on Geriatric Pain Management was accomplished through examination of pre versus post program Geriatric Pain Management Survey Supplements.

Sample

Eighteen nurses attended the Geriatric Pain Management program. One participant was a licensed practical nurse, the remainder were registered nurses. One of the registered nurses functioned as unit manager, one as a case manager, and the remainder were staff nurses. Degree preparation for the participating registered nurses was not evaluated.

Fourteen participants completed the Brief Pain Surveys and pre-program participation Geriatric Survey Supplement. Sixteen participants completed post program Geriatric Survey Supplements. Of note, neither the case manager nor the unit manager completed survey tools. The Brief Pain Surveys were administered so that a fuller understanding could be developed regarding program participants attitudes and beliefs about pain and the influence these may have had on Geriatric Survey Supplement results.

Description of Sample, Results of Brief Pain Surveys

In the Pain/Gender portion of the Brief Pain Surveys, responses made it apparent that among program participants there is gender bias. Almost half the participants believed women tolerate higher amounts of pain. Somewhat counter-intuitively,
however, participants also felt women were more expressive about pain. This is worth noting as it influences responses to questions and vignettes (such as those used during this program) involving the identification of gender.

Geriatric Pain Management program participants demonstrated a greater understanding of management issues in pain reporting better than those involved in McCaffery and Ferrell's 1997 study. McCaffery and Ferrell's compared 1990 and 1995 results of the Pain Assessment/Behavior and Pain Addiction portions of the Brief Pain Surveys and found that many nurses persist in their views that patient's should exhibit signs and symptoms of pain. Roughly 41% of the nurses in the 1995 survey correctly answered all of the pain assessment questions correctly (i.e., they accepted the patient's self-report of pain) (McCafferey & Ferrell, 1997). Conversely, 80% of the nurses attending the geriatric pain program at Northwest Hospital correctly answered all of the pain assessment questions.

Program participants also demonstrated a greater awareness of concepts surrounding opioid titration. Only 33% of nurses in McCaffery and Ferrell's (1997) study correctly titrated a safe but ineffective opioid dose, versus 73% of participants in the geriatric pain program at Northwest Hospital.

In comparison to McCaffery and Ferraell's study, significant improvements were demonstrated by geriatric pain program participants in both pain assessment and treatment. However, it is important to note that of Northwest's geriatric pain program participants, only 66% correctly assessed and treated fictitious patients on the survey. These findings suggest that only 6 of every 10 program participants fully understood the
two basic principles of pain management; accept the patient's self-report of pain and
titrate safe but ineffective opioid doses.

Responses to the Pain Addiction portion of the Brief Pain Surveys items revealed
concerns about addiction among geriatric pain program participants consistent with those
in McCaffery and Ferrell's study. As in the study, program participants thought the
likelihood of addiction rose as duration of use lengthened. Forty percent of participants
believed addiction to occur in one quarter or more patients if opioids were used for 3-6
months. In addition, the likelihood of clinically significant opioid tolerance was not well
understood by program participants. While all of them were aware that tolerance was
unlikely to develop in 1-3 days, only 13% correctly indicated that 75-100% of patients
will develop tolerance in 3-6 months of use. This is consistent with McCaffery &
Ferrell's study and serves to support their assertion that nurses continue to underestimate
the influence of clinically significant tolerance on treatment choices.

Finally, the Pharmacology portion of the Brief Pain Surveys revealed gaps in
geriatric pain program participant's knowledge of opioids, equianalgesic dosing, and pain
medication adjuncts. Brief examples of this included the mistaken belief promethazine is
a potentiator of opioids (73% responding in the affirmative) and the belief that there is a
ceiling effect on morphine dosing (40% responding in the affirmative).

Responses to the Brief Pain Surveys provide insight into viable areas of future
continuing education on Northwest's Ortho/Surg unit. They also serve to identify gaps in
program participants pain management knowledge which were not addressed by program
objectives but which may have influenced knowledge acquisition and be reflected in Geriatric Pain Management Survey Supplement responses.

Results of the Geriatric Pain Management Survey Supplement

The learning objective regarding understanding the physiologic changes that occur in pain and the affect of aging on these responses was addressed by three Geriatric Pain Management Survey Supplement questions (Table 5.1). Participating staff demonstrated significant pre-test understanding of this topic, with 88% answering 2 of the 3 questions correctly. Pre-test scores indicated some program participants were unaware of respiratory pattern variations which are normal variants in elders, as demonstrated by responses to question 7. A fuller understanding of the significant differences between respiratory patterns versus respiratory depression was demonstrated by post program test scores on question 7.

The second program objective, understanding the effect of aging and cognitive function on pain assessment, also was addressed in three survey questions (Table 5.1). Pre-program understanding of appropriate pain rating scales for use with mild to moderately confused elders was poor, as indicated by pre-program test scores on question 1 (Table 5.1, question 1). Significant advances were made in post program scores, with 50% of participants responding correctly. However, the FLACC Non-verbal pain scale (evaluating non-verbal cues in the patient's face, legs, activity, cry, and degree of consolability) was still perceived as the scale of choice for the confused by communicative geriatric patient, despite program discussion regarding its appropriate use in limited situations.
Interestingly, in light of specifically discussing studies which confirm cognitively impaired elders can self report pain on a variety of scales, the scale to avoid in mild to moderately confused but communicative elders was the numeric scale according to 31% of participants. While substantial gains in understanding were made through the program, appropriate conditions for using the FLACC scale still elude many participants.

Participants have demonstrated an understanding that cognition level does not inherently affect pain sensation through responses to question 4 (Table 5.1, question 4). However, it is worth noting that the question addresses both elders and those with cognitive impairments. Thus, respondents may have answered correctly based on either of these criteria. Regardless, pre-program and post-program scores are essentially identical, demonstrating that participants were aware before participating in the program that there is no evidence that age and/or cognition effect pain sensation.

Prior to attending the program, roughly 71% of participants reported that even without input from the patient, nurses estimates of pain were accurate (Table 5.1, question 3). Post test scores indicate 31% continued to support this notion despite the presentation of numerous studies during the program presentation that indicated otherwise. This may be a reflection of nurses persistence in their expectation of observable changes in the patient experiencing pain (i.e., a change in vital signs, diaphoresis, etc.). This, as previously discussed, is supported in participant responses to questions in the Brief Pain Survey.

The third learning objective, the influence of aging on analgesia administration, also was addressed by 3 questions (Table 5.1). A significant change between pre and
post test scores occurred in response to a question regarding repeated narcotic administration in the geriatric client (Table 5.1, question 8). Pre-test responses indicate that 50% of participants were either very concerned about over medicating the elder, and thus withheld all narcotics despite a self report of significant pain; or, they over medicated the elder without regard for the greater peak and longer duration of action narcotics have in the elderly. Regardless, an additional 25% of participants demonstrated a better grasp of the issues surrounding analgesia administration, choosing to increase a safe but ineffective dose by 50%. There were not any responses indicating participants would withhold narcotics for a self-report of significant pain, and, all respondents chose to increase a safe but ineffective dose. In this regard, all participants demonstrated improved understanding of issues surrounding narcotic administration in the elderly.

Finally, the last question of the survey addressed the final objective, knowledge of hospital policy regarding pain management practices. Pre-program scores indicate that only two participants were unaware that the hospital's policy was to assess and address pain until the patient's stated goal, or a rating of 4 or less, was achieved (Table 5.1, question 10). Both of these participants incorporated program material on this topic into their post test response.

Limitations

Selection bias may be reflected in the Geriatric Pain Management Survey Supplement pre and post program results and in the results of the Brief Pain Surveys. Nurses attending the program may not be representative of Northwest's Ortho/Surg nursing staff generally. Nurses choosing to attend, as it was not required, were likely to
be more motivated to learn about pain, have an interest in pain or geriatrics, and already
have knowledge about either pain management or geriatrics. Thus, the apparent
improvements in program participant's knowledge versus McCaffery and Ferrell's (1997)
survey results, may be in part due to this 'interest' bias.

Conclusions

The geriatric pain management program achieved two of its three objectives for
participants. Those attending the program demonstrated improved understanding of
physiologic responses associated with pain, the influence of aging on those responses,
and an increased awareness of the influence of age on analgesia dosing. Unfortunately,
only moderate improvement was demonstrated in the critical area of geriatric pain
assessment, specifically, the importance of achieving a self-report of pain and the
unreliable nature of observed behavior as an indicator of pain intensity.
Table 5.1  Results of Geriatric Pain Management Survey Supplement.

<table>
<thead>
<tr>
<th>Question number learning objective assessed.</th>
<th>Pre-program % Correct</th>
<th>Post program % Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Influence of aging and cognitive function on pain assessment practices.</td>
<td>14%</td>
<td>37.5%</td>
</tr>
<tr>
<td>2. Physiology of pain, influence of aging on responses.</td>
<td>78.5%</td>
<td>88%</td>
</tr>
<tr>
<td>3. Influence of aging and cognitive function on pain assessment practices.</td>
<td>28.5%</td>
<td>69%</td>
</tr>
<tr>
<td>4. Influence of aging and cognitive function on pain assessment practices.</td>
<td>93%</td>
<td>94%</td>
</tr>
<tr>
<td>5. Physiology of pain, influence of aging on responses.</td>
<td>50%</td>
<td>100%</td>
</tr>
<tr>
<td>6. Influence of aging on analgesia administration.</td>
<td>86%</td>
<td>100%</td>
</tr>
<tr>
<td>7. Influence of aging on analgesia administration.</td>
<td>78.5%</td>
<td>100%</td>
</tr>
<tr>
<td>8. Influence of aging on analgesia administration.</td>
<td>50%</td>
<td>75%</td>
</tr>
<tr>
<td>9. Physiology of pain, influence of aging on responses.</td>
<td>86%</td>
<td>88%</td>
</tr>
<tr>
<td>10. Northwest Hospital pain assessment policy.</td>
<td>86%</td>
<td>100%</td>
</tr>
</tbody>
</table>
CHAPTER SIX
IMPLICATIONS AND CONCLUSIONS

Introduction

The education of nurses in the process of pain assessment, documentation, and management is of major importance in improving patient outcomes (Stomberg et al., 2003). Yet, studies find little in the way of formal pain management education in undergraduate curricula (Wallace et al., 1995). Thus, continuing education programs are essential to expanding the staff nurses knowledge of pain, its management, and its effect on patient outcomes. Nurses attending pain management programs consistently demonstrate better knowledge regarding pain and the issues surrounding it (McCaffery & Ferrell, 1997).

The principal method of communicating updated pain management education on Northwest's Ortho/Surg unit has been through the completion of a self-learning packet. The 30 pages of the packet contain information ranging from health care policy and research on pain management to patients who are known or suspected abusers (Hultquist, Young, & Jarzyna, 2002). It offers guidance on equianalgesic dosing, adjuvent analgesics, pain assessment, opioid titration, and considerations for elderly patients (Hultquist, Young, & Jarzyna, 2002). The packet lacks information on the physiologic responses which occur during pain and the physiologic influences of aging on these responses. In addition, information specific to elders in the packet implies that cognitively impaired elders are unable to use pain assessment scales, encouraging the use of observed behavior to achieve a pain scale rating. The Geriatric Pain Management
program developed during this project reinforces, builds on, and includes concepts not previously introduced by the self-learning packet.

All of the participants in the Geriatric Pain Management program had completed the Pain self-learning packet within the last 2 years. Program results, as well as those of the Brief Pain Surveys, imply that some information contained within the pain self-learning packet was not retained. McCaffery and Ferrell assert that the longer nurses are exposed to correct information about pain and its management the better their knowledge level. This is supported by the increase in correct responses to post program surveys observed during this project.

Just as the Ortho/Surg unit expects staff nurses to obtain continuing education units in pediatrics, geriatrics, and orthopedics, there should be requirements regarding continuing education in pain management. Pain is a rapidly developing science and guidelines are changing, becoming more detailed in their understanding of approaches to pain management as a function of the population being considered. The current continuing education requirements on Northwest's Ortho/Surg unit could be developed to include pain management in addition to, or concurrent with, current continuing education requirements.

**Significance to Nursing**

Continuing education which presents research based information on pain management positively influences nurses understanding of pain and appropriate pain management practices. Positively influencing patient outcomes is, and has long been, the goal of acute care nursing. Pain can either positively or negatively influence realizing
this goal. Acute care nurses need to seek out information regarding pain and its management, embracing their critical part in optimizing the influence of pain on patient outcomes.

Summary

"Numerous studies have implicated inadequate assessment and use of analgesics as the reasons for patients suffering pain needlessly" (McCaffery & Ferrell, 1997, p. 184). In order to remedy this and improve pain management practices especially among special populations such as geriatrics, pediatrics, or cancer sufferers specifically, nurses must be encouraged to expand their pain management knowledge. Often the lynch pin between patient and physician in a patient's pain management, acute care nurses have direct responsibility for pain assessment and tailoring of opioid analgesia. Education, and continuing education, is critical to be successful in this endeavor. Acute care nurses must be encouraged and supported in their efforts to expand their knowledge of pain management in whatever population they encounter at the bedside. Simultaneously, they should be held accountable for their responsibilities as a key player in management of acute post operative pain.
APPENDIX A

Copy of Brief Pain Surveys as Submitted to Program Participants.
BRIEF PAIN SURVEYS

Developed by Betty R. Ferrell, PhD, FAAN &
Margo McCaffery RN, MSN, FAAN

with a GERIATRIC PAIN SURVEY SUPPLEMENT
based on the recommendations of
The Agency for Healthcare Research and Quality (AHRQ),
U.S. Department of Health and Human Services
Developed by Cynthia M. Ashbaugh BSN
7/30/04
Directions: Please select one answer for each question.

1. In general which of the following statements best describes your beliefs about how gender (sex of the patient) affects the sensation of pain, i.e. sensitivity to pain or the amount of pain felt?
   ___a) Men feel greater pain than women from comparable stimuli.
   ___b) Women feel greater pain than men from comparable stimuli.
   ___c) There are generally no differences in sensitivity to pain between men and women.

2. In general, which of the following statements best describes your beliefs about how gender affects pain tolerance?
   ___a) Men tolerate higher amounts of pain than women.
   ___b) Women tolerate higher amounts of pain than men.
   ___c) There are generally no differences in pain tolerance between men and women.

3. How do you think gender influences nonverbal expressions of pain, e.g. frowning?
   ___a) Men tend to be more behaviorally expressive about pain than women.
   ___b) Women tend to be more behaviorally expressive about pain than men.
   ___c) Neither of the above.

Robert is 25 years old and this is his first day following abdominal surgery. As you enter his room, he is lying quietly in bed and grimaces as he turns in bed. Your assessment reveals the following information: BP 120/80, HR 80, R 18; on a scale of 0-10 (0= no pain/discomfort, 10=worst pain/discomfort) he rates his pain as 8.

1. On the patient's record you must mark his pain on the scale below. Circle the number that represents your assessment of Robert's pain.

   0---------1---------2---------3---------4---------5---------6---------7---------8---------9---------10

2. Your assessment, above, is made two hours after he received morphine 2 mg IV. Half hourly pain ratings following the injection ranged from 6 to 8 and he had no clinically significant respiratory depression, sedation, or other untoward side effects. He has identified 2 as an acceptable level of pain relief. His physician's order for analgesia is "morphine IV 1-3mg q1h PRN pain relief". Check the action you will take at this time:

   ___a) Administer no morphine at this time.
   ___b) Administer morphine 1 mg IV now.
   ___c) Administer morphine 2 mg IV now.
d) Administer morphine 3 mg IV now.

What percentage of cancer patients do you think suffer pain at some point during their illness? (Circle the correct response)

0--------10--------20--------30--------40--------50--------60--------70--------80--------90--------100

What do you think is the percentage of cancer patients who over report the amount of pain they have? (Circle the correct response)

0--------10--------20--------30--------40--------50--------60--------70--------80--------90--------100

Narcotic addition is defined as psychological dependence accompanied by overwhelming concern with obtaining and using narcotics for psychic effect, not for medical reasons. It may occur with or without the physiological changes of tolerance to analgesia and physical dependence (i.e. withdrawal).

1. Using this definition, how likely is it that narcotic (opioid) addiction will occur as a result of treating pain with narcotic analgesics (i.e., What percent of the population treated for pain with narcotics will meet the definition of addiction?) (Circle the correct response)

<1%-----------------5%-------------25%----------------50%--------------75%-------------100%

2. At what stage would you recommend maximum, tolerated narcotic (opioid) analgesic therapy for treatment of severe cancer pain?

   ____ a) Prognosis of less than 24 months
   ____ b) Prognosis of less than 18 months
   ____ c) Prognosis of less than 6-12 months
   ____ d) Prognosis of less than 3-6 months
   ____ e) Prognosis of less than 1 month
   ____ f) Prognosis of less than 1 week
   ____ g) Anytime, regardless of prognosis

3. Giving patients sterile water injection (placebo) is a useful test to determine if the pain is real.
Please use the following definitions to answer the following questions, taken from the American Pain Society, 1992:

Narcotic/opioid addiction, or psychological dependence, is "a pattern of compulsive drug use characterized by a continued craving for an opioid and the need to use the opioid for effects other than pain relief." Physical dependence and tolerance are not addiction.

Tolerance to opioid analgesia, "means that a larger dose of opioid analgesic is required to maintain the original effect."

Physical dependence on opioids "is revealed in patients taking chronic opioids when the abrupt discontinuation of an opioid or the administration of an opioid antagonist produces an abstinence syndrome" (withdrawal).

Please circle one number closest to what you consider the correct answer.

When opioids/narcotics are used for pain relief in the following situations, what percent of patients are likely to develop opioid/narcotic addiction?

1. All patients-overall.  
2. Patients receiving PO codeine  
3. Patients receiving PO morphine  
4. Patients receiving IV morphine  
5. Patients receiving PO oxycodone  
6. Patients who receive opioids for 1 to 3 days.  
7. Patients who receive opioids for 3-6 months.

When opioids/narcotics are used for pain relief in the following situations, what percent of patients are likely to develop opioid/narcotic tolerance?

1. Patients who receive opioids for 1-3 days
2. Patients who receive opioids for 3-6 months <1% 5% 25% 50% 75% 100%

When opioids/narcotics are used for pain relief in the following situations, what percent of patients are likely to develop opioid/narcotic physical dependence?

1. Patients who receive opioids for 1-3 days <1% 5% 25% 50% 75% 100%
2. Patients who receive opioids for 3-6 months <1% 5% 25% 50% 75% 100%

What do you think is the percentage of patients who over report the amount of pain they have?

0------10--------20------30-------40--------50-------60--------70-------80--------90--------100%

Circle one of the three definitions for each of the following drugs:

1. cocaine Opioid Nonopioid Unsure
2. codeine Opioid Nonopioid Unsure
3. heroin Opioid Nonopioid Unsure
4. hydromorphone (dilaudid) Opioid Nonopioid Unsure
5. ibuprofen (Motrin, Advil) Opioid Nonopioid Unsure
6. meperidine (demerol) Opioid Nonopioid Unsure
7. morphine Opioid Nonopioid Unsure
8. oxycodone (e.g. in Percocet) Opioid Nonopioid Unsure
9. pentazocine (Talwin) Opioid Nonopioid Unsure
10. propoxyphene (Darvon) Opioid Nonopioid Unsure

Which of the following is most likely to provide the same analgesia as Demerol (meperidine) 75mg IM?

_____ a) Demerol 85mg PO
_____ b) Demerol 100mg PO
_____ c) Demerol 150mg PO
_____ d) Demerol 300mg PO

Which of the following is most likely to provide the same analgesia as codeine 30mg + acetaminophen 300mg PO (e.g. Tylenol #3)?

_____ a) Dilaudid 0.5mg PO
_____ b) Dilaudid 2mg PO
_____ c) Dilaudid 8mg PO
d) Dilaudid 24mg PO

Please circle True (T) or False (F) to following series of questions:

T F 1. Observable changes in vital signs or behavioral expressions of pain will be present if the patient has severe pain.

T F 2. Pain intensity should be rated by the nurse, not the patient.

T F 3. If the patient can be distracted from his pain this usually means he does not have as high an intensity of pain as he indicates.

T F 4. The patient's report of pain relief following the administration of a placebo suggests that there is little or no physical pathology present to account for the pain.

T F 5. Patients may sleep in spite of severe pain.

T F 6. When morphine IV or IM is prescribed PRN for pain relief in the postoperative patient, the nurse must administer it only when the patient feels pain.

T F 7. Giving aspirin or acetaminophen (e.g. Tylenol) along with opioids/narcotics is a logical method of increasing pain relief.

T F 8. Research shows that promethazine (Phenergan) is a reliable potentiator of opioid/narcotic analgesia.

T F 9. Beyond a certain dosage of morphine, increases in dosage will not increase pain relief.

T F 10. Estimation of pain by a physician or nurse is a more valid measure of pain than the patient's self-report.

T F 11. A pain rating scale is appropriate for patients to use to rate their pain.

T F 12. After the initial recommended dose of opioid/narcotic analgesic, subsequent doses are adjusted in accordance with the individual patient's response.

T F 13. Tylenol #3 (codeine 30mg+acetaminophen 300mg) is equal to approximately one sixth of a dose of meperidine (Demerol) 75mg IM.

T F 14. Meperidine (Demerol) IM is the drug of choice for prolonged pain.

T F 15. Severe pain may be relieved using a variety of routes of administration, including the oral route.
16. The potency of the pain relief measure selected for the patient should be determined on the basis of known physical response (e.g. vital signs) rather than on the patient's report of pain intensity.

17. When a dose of morphine is safe but ineffective in relieving pain, clinical practice guidelines recommend increasing the dose by no more than 10%.

18. To prevent opioid induced respiratory depression, nurse monitoring of sedation level is more important than monitoring respiratory rate.

Andrew is 25 years old and this is his first day following abdominal surgery. As you enter his room, he smiles at you and continues talking and joking with his visitor. Your assessment reveals the following information: BP 120/80, HR 80, R 18; on a scale of 0-10 (0= no pain/discomfort, 10=worst pain/discomfort) he rates his pain as 8.

1. On the patient's record you must mark his pain on the scale below. Circle the number that represents your assessment of Andrew's pain.

0---------1---------2---------3---------4---------5---------6---------7---------8---------9---------10

2. Your assessment, above, is made two hours after he received morphine 2 mg IV. Half hourly pain ratings following the injection ranged from 6 to 8 and he had no clinically significant respiratory depression, sedation, or other untoward side effects. He has identified 2 as an acceptable level of pain relief. His physician's order for analgesia is "morphine IV 1-3mg q1h PRN pain relief". Check the action you will take at this time:

___a) Administer no morphine at this time.

___b) Administer morphine 1 mg IV now.

___c) Administer morphine 2 mg IV now.

___d) Administer morphine 3 mg IV now.
APPENDIX B

Copy of Geriatric Pain Management Survey Supplement.
Geriatric Pain Management Survey Supplement

1. Which of the following pain scales should be avoided in the mild to moderately confused geriatric patient who continues to be able to communicate?
   
   a) Numeric Rating Scale
   b) FACES scale
   c) FLACC scale
   d) Verbal Description Scale

2. One of the following statements about pain is false. Circle the letter corresponding to the false statement:
   
   a) Pain is associated with the release of epinephrine and norepinephrine.
   b) Increases in insulin resistance, muscle protein catabolism, and gluconeogenesis occur with pain.
   c) Pain has no effect on the immune system.
   d) Urinary retention is associated with pain.

3. Studies have shown that nurses correctly estimate pain levels in elders when:
   
   a) The elders pain is severe
   b) The elders pain is mild
   c) At any time the elder is experiencing pain
   d) They do not correctly estimate pain levels in elders at any time.

4. There is evidence that elders over the age of 75 and those with cognitive impairments have reduced pain sensations.
   
   a) True
   b) False

5. One hour after administering 4 mg of Morphine IV push your elderly patient is sleeping. They are exhibiting Cheyne-Stokes respirations. Their respiratory rate is 12/min and their continuous pulse oximetry indicates 90% on room air. You should:
   
   a) Administer 0.4mg Narcan stat.
   b) Arouse the patient immediately.
   c) Withhold all pain medications and call the physician for further orders.
   d) Monitor the patient for decreased respiratory drive (less then 10/min), pulse oximetry less then 85%, and excess sedation.

6. Since we tend to gain weight as we age, intramuscular administration of narcotics provides a more consistent analgesic response in geriatric patients then in younger adults.
7. Your 77 year old female hip fracture patient has orders for Morphine 1-4 mg IV push every 4 hours as needed for pain. She has no history of prior hospitalizations and no chronic pain issues. She reports a pain level of 10/10 on the FACES pain scale. You should administer:

   a) 1 mg of Morphine now  
   b) 2 mg of Morphine now  
   c) 3 mg of Morphine now  
   d) 4 mg of Morphine now

8. The same hip fracture patient as in question 7 is again reporting a pain level of 10/10 about 30 minutes after your initial morphine dose. You would:

   a) Tell her to give the original Morphine dose an additional 30 minutes to work.  
   b) Administer an additional 1 mg of Morphine  
   c) Administer an additional 2 mg of Morphine  
   d) Administer an additional 3 mg of Morphine  
   e) Administer an additional 4 mg of Morphine

9. Your 72 year old male patient, status post right total knee arthroplasty, is exhibiting acute confusion. He requires frequent reorientation and is often found trying to get out of bed without assistance. He has received a total of 8mg of Morphine for pain, 25 mg of Phenergan for nausea, and 30mg of routine Toradol in the last 8 hours. Your first thought is:

   a) The patient has had too much narcotic medication.  
   b) The patient is reacting to the Phenergan.  
   c) The patient is in pain.  
   d) All of the above may be true.

10. The policy at Northwest is that the patient's pain level is assessed and addressed until the patient:

    a) Has achieved a pain level of 5.  
    b) Is at their stated pain goal or a rating of 4 or less.  
    c) Is able to sleep well.  
    d) There is no specific policy, pain assessment is at the nurses discretion.
REFERENCES


