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Assessment and Management of Pain

Third Edition



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Assessment and Management of Pain

Third Edition

Greetings from Doris Grinspun,

Chief Executive Officer, Registered Nurses' Association of Ontario



The Registered Nurses' Association of Ontario (RNAO) is delighted to present the third edition of the clinical best practice guideline, *Assessment and Management of Pain*. Evidence-based practice supports the excellence in service that health professionals are committed to delivering every day. RNAO is delighted to provide this key resource.

We offer our heartfelt thanks to the many stakeholders that are making our vision for best practice guidelines a reality, starting with the Government of Ontario, for recognizing the Registered Nurses' Association of Ontario's ability to lead the program and for providing multi-year funding. Dr. Irmajean Bajnok, director of the RNAO International Affairs and Best Practice Guidelines Centre and Dr. Monique Lloyd, the associate director, provide their expertise and leadership. I also want to thank the chairs of the expert panel, Dr. Judy Watt-Watson (professor emerita of the Lawrence S. Bloomberg Faculty of Nursing at the University of Toronto and president of the Canadian Pain Society) and Dr. Denise Harrison (chair in Nursing Care of Children, Youth and Families, University of Ottawa and honorary research fellow at the Murdoch Childrens Research Institute in Australia) for their exquisite expertise and stewardship of this guideline. Thanks also to RNAO staff Brenda Dusek, Andrea Stubbs, Grace Suva, Sara Xiao and Anastasia Harripaul for their intense work in the production of this third edition. Special thanks to the members of the expert panel for generously providing time and expertise to deliver a rigorous and robust clinical resource. We couldn't have done it without you!

Successful uptake of best practice guidelines requires a concerted effort from educators, clinicians, employers, policy makers and researchers. The nursing and health-care community, with their unwavering commitment and passion for excellence in patient care, have provided the expertise and countless hours of volunteer work essential to the development and revision of each guideline. Employers have responded enthusiastically by nominating best practice champions, implementing guidelines, and evaluating their impact on patients and organizations. Governments at home and abroad have joined in this journey. Together, we are building a culture of evidence-based practice.

We ask you to be sure to share this guideline with your colleagues from other professions, because there is so much to learn from one another. Together, we must ensure that the public receives the best possible care every time they come in contact with us – making them the real winners in this important effort!

A handwritten signature in black ink that reads "Doris Grinspun". The signature is stylized and includes a long horizontal flourish at the end.

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How to Use this Document

This nursing best practice guideline^G is a comprehensive document, providing resources for evidence^G-based nursing practice and should be considered a tool, or template, intended to enhance decision making for individualized care. The guideline is intended to be reviewed and applied in accordance with both the needs of individual organizations or practice settings and the needs and wishes of the person^G (throughout this document, we use the word “person” to refer to clients^G, or patients; that is, the person, their family and caregivers being cared for by the interprofessional team). In addition, the guideline provides an overview of appropriate structures and supports for providing the best possible evidence-based care.

Nurses, other health-care professionals and administrators who lead and facilitate practice changes will find this document invaluable for developing policies, procedures, protocols, educational programs and assessments, interventions and documentation tools. Nurses in direct care will benefit from reviewing the recommendations and the evidence that supports them. But we particularly recommend practice settings adapt these guidelines in formats that are user-friendly for daily use; we include some suggested formats for tailoring the guideline to your needs.

If your organization is adopting the guideline, we recommend you follow these steps:

- a) Assess your nursing and health-care practices using the guideline’s recommendations;
- b) Identify which recommendations will address needs or gaps in services; and
- c) Develop a plan for implementing the recommendations (Implementation resources, including the RNAO *Implementation Toolkit* [RNAO, 2012b] are available on our website, www.RNAO.ca)

We are interested in hearing how you have implemented this guideline. Please contact us to share your story.

* Throughout this document, terms marked with the superscript symbol G (^G) can be found in the Glossary of Terms ([Appendix A](#)).



Purpose and Scope

Best practice guidelines are systematically developed statements to assist nurses and clients make decisions about appropriate health care (Field & Lohr, 1990). This guideline provides evidence-based recommendations for nurses and other members of the interprofessional team^G who are assessing and managing people with the presence, or risk of, any type of pain^G.

In October and December 2011, the RNAO convened focus groups with 34 experts who specialize in assessing and managing pain. Their task was to determine the direction of the third edition of the guideline, *Assessment and Management of Pain*. The focus groups were interprofessional, made up of people who held clinical, administrative and academic roles in a variety of health-care organizations. They work with clients of all ages in different types of care – acute, long-term and home health care, mental health and addictions^G, rehabilitation and community services.

The participants of the focus groups outlined outstanding resources including books, guidelines, position papers, and care pathways developed to meet the needs of specific populations and based on different types of pain (e.g., acute^G, persistent^G, cancer or during palliative care). These participants also recommended we focus this edition of the *Assessment and Management of Pain* guideline on building the general core competencies (the skills and practices) of nurses for effective assessment and management of pain, without focusing on either the type or origin of pain. The expert panel supported the focus group's recommendation.

It is important to acknowledge that personal preferences and unique needs, and the resources available, must always be considered in the delivery of care. This document is intended to assist nurses and other members of the interprofessional team to focus on evidence-based strategies in the context of the provider-client relationship. Also, competencies vary among nurses and among the different categories of nursing professionals.

We expect individual nurses will perform only the care they have the education and experience to offer. Every nurse should consult when a person's care needs surpass their ability to act independently (College of Nurses Of Ontario [CNO], 2011). Other factors that will affect the use of this guideline include each organization's policies and procedures, government legislation, different health-care sectors and the client population. This edition of the guideline is designed to apply to all domains of nursing practice, including clinical, administration, and education, to assist nurses to become more comfortable, confident and competent when caring for persons with the presence, or risk of, any type of pain.

It is important that nurses, in collaborating with their interprofessional team, know and work with people, their families and caregivers to promote safe and effective strategies for assessing, managing and preventing pain. Effective prevention and management of pain depends on coordinated interprofessional care^G that emphasizes ongoing communication among professionals and the people seeking their services.

Our reference list and appendices (including a glossary, a description of how the guideline was developed and details on our literature search) follow the main guideline.

Summary of Recommendations

This guideline is a new edition of, and replaces *Assessment and Management of Pain*. (RNAO, 2007)

We have used these symbols for the recommendations:

- ✓ No change was made to the recommendation as a result of the systematic review^G evidence.
- ✚ The recommendation and supporting evidence were updated with systematic review evidence.

NEW A new recommendation was developed based on evidence from the systematic review.

PRACTICE RECOMMENDATIONS ^G		LEVEL OF EVIDENCE	
1.0 Assessment	<p>Recommendation 1.1</p> <p>Screen for the presence, or risk of, any type of pain:</p> <ul style="list-style-type: none"> ■ On admission or visit with a health-care professional; ■ After a change in medical status; and ■ Prior to, during and after a procedure. 	Ib	✚
	<p>Recommendation 1.2</p> <p>Perform a comprehensive pain assessment on persons screened having the presence, or risk of, any type of pain using a systematic approach and appropriate, validated tools.</p>	Ib	✚
	<p>Recommendation 1.3</p> <p>Perform a comprehensive pain assessment on persons unable to self-report using a validated tool.</p>	III	✚
	<p>Recommendation 1.4</p> <p>Explore the person’s beliefs, knowledge and level of understanding about pain and pain management.</p>	III	✚
	<p>Recommendation 1.5</p> <p>Document the person’s pain characteristics^G.</p>	Ila	✚

PRACTICE RECOMMENDATIONS ⁶		LEVEL OF EVIDENCE	
2.0 Planning	<p>Recommendation 2.1</p> <p>Collaborate with the person to identify their goals for pain management and suitable strategies to ensure a comprehensive approach to the plan of care.</p>	Ib	NEW
	<p>Recommendation 2.2</p> <p>Establish a comprehensive plan of care that incorporates the goals of the person and the interprofessional team and addresses:</p> <ul style="list-style-type: none"> ■ Assessment findings; ■ The person's beliefs and knowledge and level of understanding; and ■ The person's attributes⁶ and pain characteristics. 	III	+
3.0 Implementation	<p>Recommendation 3.1</p> <p>Implement the pain management plan using principles that maximize efficacy and minimize the adverse effects of pharmacological interventions including:</p> <ul style="list-style-type: none"> ■ Multimodal analgesic approach; ■ Changing of opioids (dose or routes) when necessary; ■ Prevention, assessment and management of adverse effects during the administration of opioid analgesics; and ■ Prevention, assessment and management of opioid risk. 	Ib	+
	<p>Recommendation 3.2</p> <p>Evaluate any non-pharmacological (physical and psychological) interventions for effectiveness and the potential for interactions⁶ with pharmacological interventions.</p>	Ib	+
	<p>Recommendation 3.3</p> <p>Teach the person, their family and caregivers about the pain management strategies in their plan of care and address known concerns and misbeliefs⁶.</p>	Ib	+

PRACTICE RECOMMENDATIONS ⁶		LEVEL OF EVIDENCE	
4.0 Evaluation	<p>Recommendation 4.1</p> <p>Reassess the person’s response to the pain management interventions consistently using the same re-evaluation tool. The frequency of reassessments will be determined by:</p> <ul style="list-style-type: none"> ■ Presence of pain; ■ Pain intensity; ■ Stability of the person’s medical condition; ■ Type of pain e.g. acute versus persistent; and ■ Practice setting. 	IIb	+
	<p>Recommendation 4.2</p> <p>Communicate and document the person’s responses to the pain management plan.</p>	IIb	+

EDUCATION RECOMMENDATIONS ⁶		LEVEL OF EVIDENCE	
5.0 Education	<p>Recommendation 5.1</p> <p>Educational institutions should incorporate this guideline, <i>Assessment and Management of Pain (3rd ed.)</i>, into basic and interprofessional curricula for registered nurses, registered practical nurses and doctor of medicine programs to promote evidence-based practice.</p>	IIb	+
	<p>Recommendation 5.2</p> <p>Incorporate content on knowledge translation strategies into education programs for health-care providers to move evidence related to the assessment and management of pain into practice.</p>	IIb	+
	<p>Recommendation 5.3</p> <p>Promote interprofessional education and collaboration related to the assessment and management of pain in academic institutions.</p>	Ib	NEW

EDUCATION RECOMMENDATIONS ⁶ ...con't		LEVEL OF EVIDENCE	
	<p>Recommendation 5.4</p> <p>Health-care professionals should participate in continuing education opportunities to enhance specific knowledge and skills to competently assess and manage pain, based on this guideline, <i>Assessment and Management of Pain (3rd ed.)</i>.</p>	IV	+

ORGANIZATION AND POLICY RECOMMENDATIONS ⁶		LEVEL OF EVIDENCE	
6.0 Organization and policy	<p>Recommendation 6.1:</p> <p>Establish pain assessment and management as a strategic clinical priority.</p>	IV	+
	<p>Recommendation 6.2:</p> <p>Establish a model of care to support interprofessional collaboration for the effective assessment and management of pain.</p>	IIb	+
	<p>Recommendation 6.3:</p> <p>Use the knowledge translation process and multifaceted strategies within organizations to assist health-care providers to use the best evidence on assessing and managing pain in practice.</p>	III	+
	<p>Recommendation 6.4:</p> <p>Use a systematic organization-wide approach to implement <i>Assessment and Management of Pain (3rd ed.)</i> best practice guideline and provide resources and organizational and administrative supports to facilitate uptake.</p>	IV	+

Interpretation of Evidence

Levels of Evidence

Ia	Evidence obtained from meta-analysis or systematic reviews of randomized controlled trials ⁶ .
Ib	Evidence obtained from at least one randomized controlled trial.
IIa	Evidence obtained from at least one well-designed controlled study without randomization.
IIb	Evidence obtained from at least one other type of well-designed quasi- experimental study, without randomization.
III	Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation studies and case studies.
IV	Evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities.

Adapted from “Annex B: Key to evidence statements and grades of recommendations,” by the Scottish Intercollegiate Guidelines Network (SIGN), 2012, in *SIGN 50: A Guideline Developer’s Handbook*. Available from <http://www.sign.ac.uk/guidelines/fulltext/50/annexb.html>



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Further details are available from the Registered Nurses' Association of Ontario.

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Background

WHAT IS PAIN?

Pain is defined as an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage (International Association for the Study of Pain [IASP], 2012a). This definition recognizes both the physiologic and affective nature of the pain experience. Pain can be classified by these types:

- a) nociceptive^G pain, which is considered a warning signal that results from actual or threatened damage to non-neural tissue resulting in the activation of nociceptors in a normal functioning nervous system; or
- b) neuropathic^G pain, which is a clinical description of pain thought to be caused by damage from a lesion or disease of the somatosensory nervous system that is confirmed by diagnostic investigations.

Also, pain categories can be based on the location of lesion (somatic, visceral), diagnosis (headache) or duration (acute, persistent). A person may experience both nociceptive (such as with surgery), and neuropathic pain (e.g., diabetic neuropathy) at the same time (IASP, 2012a).

Worldwide, unrelieved or poorly managed pain is a burden on the person, the health-care system and society, and pain is a concern throughout life (Lynch, 2011). Choinière et al. (2010) and Schopflocher, Taenzer, and Jovey (2011) report that 18.9 percent of the population in industrialized nations live with pain. The Canadian Pain Coalition's *Pain in Canada Fact Sheet* (2012) says one in five Canadians have moderate to severe persistent (chronic pain), and one-third of those people have lost the ability to work because of the significant impact of pain on their health and quality^G of life.

Stanford, Chambers, Biesanz, and Chen (2008) found that 15 to 30 percent of children and adolescents experience recurring or persistent pain; 'headache' is the form of pain they report most. Huguet and Miro (2008) found 5.1 percent of children who report persistent pain experience it at moderate to severe levels. King et al. (2011) and von Baeyer (2011) report that when the severity of pain and pain-related disability are taken into consideration, between 5 and 15 percent of children require assistance for their pain and pain-related problems. Persistent pain has been shown to interfere with children's activities of daily living, mood and sleep; it can also cause depression, anxiety and developmental problems (American Medical Directors Association [AMDA], 2012; Scottish Intercollegiate Guidelines Network [SIGN], 2008; von Baeyer, 2011).

The prevalence of persistent pain has been shown to increase with age, and persistent pain has been identified in approximately 65 percent of the older adult population (> 65 years of age) living in the community and in 80 percent of older adults living in long-term care (Hadjistavropoulos et al., 2009; Lynch, 2011). Ramage-Morin and Gilmour (2010) report 1.5 million Canadians (9 percent of men and 12 percent of women) aged 12 to 44 years report persistent pain. Untreated persistent pain has been identified in people living with cancer and HIV-related neuropathies (Deandrea, Montanari, Moja, & Apolone, 2008; Phillips, Cherry, Moss, & Rice, 2010).

Inadequate pain management is evident across all ages. Surveys continue to show that neonatal pain is poorly managed during invasive procedures in intensive care units despite good evidence to support effective pain management strategies (Johnston, Barrington, Taddio, Carbajal, & Fillion, 2011). A recent survey of children (N=3,822) admitted to 32 units in eight Canadian pediatric hospitals found 78.2 percent of them had undergone at least one painful procedure in the previous 24 hours, but only 28.3 percent of those children received a pain management intervention (Stevens et al., 2011). Inadequate pain management after surgery becomes a persistent pain problem in 19 to 50 percent of adults (Andersen & Kehlet, 2011).

Effective pain management is a person's right and assessing pain, intervening to ease it, monitoring, preventing and minimizing it should be top priorities of a person's care, regardless of their diagnosis or type of pain (Jarzyna et al., 2011). The International Association for the Study of Pain (IASP) works to increase the knowledge of health-care providers each year by focusing on a specific type of pain or related problem. For example, in 2013, IASP focused on visceral pain, which is the form of pain most frequently associated with ailments such as gallstones; acute pancreatitis; acute appendicitis; bladder and gynaecological issues. More information on IASP's global year against pain initiative is available at http://www.iasp-pain.org/AM/Template.cfm?Section=About_IASP3&Template=/CM/HTMLDisplay.cfm&ContentID=1608.

Persistent pain places a physical, emotional and socioeconomic burden on the person with the presence, or risk of, any type of pain and their families or caregivers (Pompili et al., 2012). Pain is highly subjective and multidimensional with sensory, cognitive and affective components (IASP, 2012a). Pain management must be person-centred, multidimensional and comprehensive, taking into consideration the bio-psychosocial, spiritual, and cultural factors affecting the person. Pain management should be an interprofessional team effort (Cancer Care Ontario, 2008; Institute for Clinical Systems Improvement [ICSI], 2009). Nurses are required to intervene within their scope of practice to a person's self-reported pain, and work with the person toward managing the pain appropriately. That means nurses must have the competencies to assess and manage pain, including knowledge and skills in interviewing techniques, and the ability to physically assess and manage pain in people who are not able to self report (Herr, Coyne, McCaffery, Manworren, & Merkel, 2011; Wuhrman & Cooney, 2011).

The RNAO expert panel on Assessment and Management of Pain developed these guiding principles for this edition of the guideline:

Any person has the right to expect:

- Their pain to be acknowledged and respected.
- The best possible personalized evidence-based pain assessment and management including relevant bio-psychosocial components.
- Ongoing information and education about the assessment and management of pain.
- Involvement as an active participant in their own care in collaboration with the interprofessional team.
- Communication and documentation among interprofessional team members involved in their care to monitor and manage their pain.

Our expert panel recognized some settings lack the resources to do everything the evidence suggests for complex pain management. Consequently, this guideline offers recommendations on evidence-based care, which nurses and other health-care professionals can use as appropriate for their clients. Interprofessional health-care teams should work closely with those persons, their families and caregivers, to address the complex lifestyle, self-care and multiple treatment demands that may affect efforts to prevent or manage pain. We acknowledge some levels of pain care will not always be accessible to everyone. In some places, for example, there may not be a pain specialist, and some pain management interventions might not be available or affordable for everyone. Nurses can positively influence the assessment and management pain by promoting and participating in interprofessional health-care teams following these best practice guidelines.

Practice Recommendations

1.0 ASSESSMENT

RECOMMENDATION 1.1:

Screen for the presence, or risk of, any type of pain:

- On admission or visit with a health-care professional;
- After a change in medical status; and
- Prior to, during and after a procedure.

Level of Evidence = Ib

Discussion of Evidence:

Screening for Pain

Nurses have an important role in screening for pain. Randomized controlled trials report screening is essential for effective pain management (Cancer Care Ontario, 2008; Dewar, 2006; Schofield, O'Mahony, Collett, & Potter, 2008). Although other health-care professionals are directly or indirectly involved in the assessment and management of a person's pain, nurses have the most contact with people receiving health care. This involvement places nurses in a unique position to screen for pain, and, if the screen is positive, to move forward with a comprehensive assessment of the person's pain experience.

When conducting a screen for the presence, or risk, of any type of pain, it is important for the nurse to ask directly about pain rather than assuming the person or their family or caregivers will voluntarily disclose it (American Medical Directors Association [AMDA], 2012; Royal College of Physicians, British Geriatrics Society and British Pain Society, 2007). Pain is subjective and people can find it difficult to describe the discomfort and often use other terms to express their pain (IASP, 2012a; Schofield et al., 2008). The American Medical Directors Association (AMDA) guideline, *Pain Management in the Long Term Care Setting* (2012, p. 8), outlines questions that can be adapted to any population and used to detect pain in persons who are able to self-report such as:

1. "Are you feeling any aching or soreness now?"
2. "Do you hurt anywhere?"
3. "Are you having any discomfort?"
4. "Have you taken any medications for pain?"
5. "Have you any aching or soreness that kept you up at night?"
6. "Have you had trouble with any of your usual day-to-day activities?"
7. "How intense is your pain?"

Routine screening must be considered:

1. On admission or visit with a health-care professional:

It is important to screen for pain on each admission to a health-care setting (acute or long-term care) or visit with any health-care professional, until it is established that pain is not a focus of care (AMDA, 2012; Cancer Care Ontario, 2008; RNAO, 2007).

2. After a change in medical status:

The level of pain and intensity of pain experienced by a person can fluctuate over time as health condition and medical status change, especially with chronic health conditions such as cancer, persistent non-cancer pain, osteoarthritis, fibromyalgia or advancing age (AMDA, 2012; Cancer Care Ontario, 2008; Cornally & McCarthy, 2011; RNAO, 2007; Spence et al., 2010).

3. Prior to, during and after a procedure:

People are at risk for acute pain if they undergo procedures known to cause it, such as skin-breaking procedures, immunization, surgery or drainage tube insertion or removal (Herr, Bursch, Miller, & Swafford, 2010; Hutson, 2009; Taddio et al., 2010).

Neuropathic pain can be a challenge for the interprofessional team to diagnose. A person is at risk of neuropathic pain if he or she experiences an injury to the central or peripheral nervous system because of trauma or diseases such as multiple sclerosis and stroke. Early screening by the interprofessional team is important because diagnosing neuropathic pain may take more investigation to facilitate early management (Bennett et al., 2007). There are screening questionnaires for neuropathic pain that incorporate the person's signs and symptoms, including the Self-Report Leeds Assessment of Neuropathic Symptoms and Signs (S-LANSS) (Bennett, Smith, Torrance, & Potter, 2005) and the Douleur Neuropathique 4 (DN4) (Bouhassira et al., 2005). Both are brief, easy to use, and have established reliability and validity.

RECOMMENDATION 1.2:

Perform a comprehensive pain assessment on persons screened having the presence, or risk of, any type of pain using a systematic approach and appropriate, validated tools.

Level of Evidence = Ib

Discussion of Evidence:

Randomized controlled trials report improvement in the person's and interprofessional team's satisfaction with pain management when comprehensive pain assessments are performed (Goldberg & Morrison, 2007). The development of pain assessment practices and competencies is supported by the Canadian Pain Society (2010), Accreditation Canada (2011) and the Canadian Nurses Association (CNA) Canadian Registered Nurses' Examination Competencies (2012-2015) (Watt-Watson et al., 2013).

A person who has screened positive for the presence, or risk of, any type of pain requires a further comprehensive and systematic approach to pain assessment to address:

- previous pain history;
- sensory characteristics of pain (severity, quality, temporal features, location and what makes the pain better or worse);
- impact of pain on usual everyday activities (ability to work, sleep, experience enjoyment);

- psychosocial impacts of pain on oneself or others (depression, financial); and
- interventions used in the past that were found to manage pain effectively (AMDA, 2012; Dewar, 2006; Goldberg & Morrison, 2007; Ontario Cancer Symptom Management Collaborative [OCSMC], 2010; Royal College of Physicians et al., 2007; SIGN, 2008).

Pain is a multidimensional, subjective phenomenon, so a person’s self-report is the most valid way of assessing pain if the person is able to communicate (Cancer Care Ontario, 2008; OCSMC, 2010; RNAO, 2007; Royal College of Physicians, British Geriatrics Society & British Pain Society, 2007; SIGN, 2008). Nurses should use a consistent, systematic approach to exploring and assessing pain. Figure 1 describes an acronym that uses the mnemonic OPQRSTUV to assist nurses and health-care providers systematically explore and assess people who screened positive for the presence or risk of, any type of pain and who are able to self-report (OCSMC, 2010).

Figure 1. Adapted Pain Assessment using Acronym O, P, Q, R, S, T, U and V

ONSET	When did it begin? How long does it last? How often does it occur?
PROVOKING/ PALLIATING	What brings it on? What makes it better? What makes it worse?
QUALITY	What does it feel like? Can you describe it?
REGION/RADIATION	Where is it? Does it spread anywhere?
SEVERITY	What is the intensity of the pain? (On a scale of 0 to 10 with 0 being none and 10 being the worst possible) Right now? At best? At worst? On average?
TIMING/TREATMENT	Is the pain constant? Does it come and go? Is it worse at any particular time? What medications and treatments are you currently using? How effective are these? Do you have any side effects from the medications and treatments?
UNDERSTANDING/ IMPACT ON YOU	What do you believe is causing the pain? Are there any other symptoms with this pain? How is this pain impacting you and your family?
VALUES	What is your goal for this pain? What is your comfort goal or acceptable level for this pain? (On a scale of 0 to 10 with 0 being none and 10 being worst possible)? Are there any other views or feelings about this pain that is important to you or your family? Is there anything else you would like to say about your pain that has not been discussed or asked?

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Figure 1. Note: Adapted from “Symptom Assessment Acronym ‘OPQRSTUV’”, in Fraser Health Authority, 2012, *Hospice Palliative Care Program Symptom Guidelines*. Retrieved from <http://www.fraserhealth.ca/home/>.

Other considerations when assessing for pain:

A pain assessment can be more thorough and individualized by knowing the person and by taking into consideration their attributes or characteristics (McAuliffe, Nay, O'Donnell, & Fetherstonhaugh, 2009). Nurses must be aware that a comprehensive pain assessment is influenced by factors including the person's illness or level of disability (i.e., pain is experienced in multiple areas), age, developmental stage, education level or cognitive status, ability to communicate, culture^G, ethnicity, biology, previous experiences with pain and reluctance to report pain (Brown, McCormack, & McGarvey, 2005; Curry-Narayan, 2010; Dewar, 2006; Shepherd, Woodgate, & Sawatzky, 2010). Spirituality must also be considered, as it may influence a person's beliefs and behaviour around pain. It is important for nurses to assess whether those factors would influence how a person reports pain and whether they would seek help for it. (Curry Narayan, 2010).

Unidimensional and multidimensional self-report tools:

It is important to use tools for assessing pain that can be easily understood by the person and their family or caregivers (McAuliffe et al., 2009; Royal College of Nursing [RCN], 2009). Which tool a nurse chooses will depend on the person's characteristics including age, ability to verbalize, clinical condition, cognitive or developmental level, literacy, ability to communicate, culture and ethnicity (Brown et al., 2005; Curry Narayan, 2010; Dewar, 2006; McAuliffe et al. 2009; Schofield et al., 2008; Zhou, Roberts, & Horgan, 2008). A pain scale developed for children in acute care may not be appropriate for older adults in long-term care. The person who is being assessed should have the tool being used explained to them (RCN, 2009). Many pain assessment tools have been translated and validated for use in different languages.

Comprehensive assessment includes determining the quality and severity (intensity) of pain. Self-report tools may be uni-dimensional, looking only at one aspect of pain such as intensity (Numerical Rating Scale [NRS 0-10], categorical scale or Faces Pain Scale-Revised) or multidimensional (Brief Pain Inventory [BPI] or the McGill Pain Questionnaire – Short-Form [MPQ-SF]). Multidimensional tools are particularly useful when more comprehensive pain assessment is required. Table 1 outlines the criteria typically used to select a validated pain assessment tool. Refer to [Appendix E](#), which lists validated pain assessment tools (unidimensional and multidimensional) for specific populations/groups. The chart briefly outlines the tool's pain indicators, components and any special considerations.



Table 1. Selecting a Pain Assessment Tool**Pain assessment tools must be:**

- *Reliable* – consistent and trustworthy ratings, regardless of time, setting or who is administering the measure.
- *Valid* – degree to which the evidence and theory supports the interpretation of the scores: the instrument truly measures the intended target (pain) it was created to measure.
- *Responsive* – able to detect change in pain due to the implemented pain management interventions.
- *Feasible to use* – simple and quick to use, requiring a short training time and are easy to administer and score.
- *Practical* – assessing different types of pain when possible; some tools (such as those for neuropathic pain) are very specific.

The tool should also be:

- Developmentally and culturally appropriate for the population it is designed for;
- Available in various languages or easily translatable;
- Easily and quickly understood by the person;
- Liked by persons, clinicians and researchers using it;
- Easy to obtain, reproduce, and distribute; and
- Able to be disinfected if touched by a person.

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For children, previous pain should be assessed using input from both the child and their parents or caregivers (RCN, 2009). Table 2 illustrates an approach to obtaining a pain history for children (it can be adapted for use with adults).

Table 2. Pain History for Children with Acute Pain

CHILD'S QUESTIONS	PARENT'S QUESTIONS
Tell me what pain is	What word(s) does your child use in regard to pain?
Tell me about the hurt you have had before	Describe the pain experiences your child has had before.
Do you tell others when you hurt? If yes, who?	Does your child tell you or others when he or she is hurting?
What do you want to do for yourself when you are hurting?	How do you know when your child is in pain?
What do you want others to do for you when you are hurt?	How does your child usually react to pain?
What don't you want others to do for you when you hurt?	What do you do for your child when he or she is hurting?
What helps the most to take your hurt away?	What does your child do for him- or herself when he or she is hurting?
Is there anything special that you want me to know about when you hurt? (If yes, have child describe)	What works best to decrease or take away your child's pain?
	Is there anything special that you would like me to know about your child and pain? (If yes, describe).

Note. From "Pain Assessment," by J. Stinson, 2009, in A. Twycross, S. Dowden & E. Bruce (Eds.), *Managing Pain in Children: A Clinical Guide* (2nd ed.), p. 86. Retrieved from [http://books.google.ca/books?id=DO91eoZ2xgMC&pg=PA86&dq=Hester+%26amp;+Barcus+1986;+Hester+et+al.+1998\)+childs+questions&hl=en&sa=X&ei=OrCjUNjkO-KniQKV5IDQAQ&ved=0CDIQ6AEwAA#v=onepage&q=Hester%20&f=false](http://books.google.ca/books?id=DO91eoZ2xgMC&pg=PA86&dq=Hester+%26amp;+Barcus+1986;+Hester+et+al.+1998)+childs+questions&hl=en&sa=X&ei=OrCjUNjkO-KniQKV5IDQAQ&ved=0CDIQ6AEwAA#v=onepage&q=Hester%20&f=false). Copyright 2009 by Blackwell Publishing Ltd. Reprinted with permission.

NOTE: Children with persistent pain require a more detailed pain history which includes:

- a description of the pain,
- associated symptoms,
- temporal or seasonal variations,
- impact on daily living (school, sport, play and self-care), and
- pain relief measures used.

Algorithms and care bundles⁶:

Algorithms and best-practice care bundles (i.e., small sets of evidence-based practices known to improve outcomes) help guide pain assessment in special populations such as children with acute or persistent pain (The Hospital for Sick Children, Pain Matters Working Group [Leads: F. Campbell & L. Palozzi], 2013), the older adult (Schofield et al., 2008) and the critically ill adult (Barr et al., 2013). Several examples of these are provided in the appendices. Refer to **Appendix F**, which provides an algorithm to assess pain in hospitalized children; **Appendix G**, details an algorithm to assess pain in adults with cancer. Refer to **Appendix H**, which presents a care bundle to assess and manage pain in critically ill adults.

Validated self-report tools, algorithms and care bundles effectively guide pain assessment. Nurses are responsible for accurately interpreting the assessment and promptly acting on the results. Refer to **Appendix D**, which contains a list of websites with resources on pain assessment and management.

RECOMMENDATION 1.3:

Perform a comprehensive pain assessment on persons unable to self-report using a validated tool.

Level of Evidence = III

Discussion of Evidence:

Not everyone is able to talk about their pain. People who are unable to talk or self-report may include:

- Neonates, infants and preverbal children;
- Older adults with cognitive impairment (such as advanced dementia);
- Persons with intellectual disability;
- Critically ill or unconscious persons; and
- Persons who are terminally ill (Herr et al., 2011).

It is important to understand the inability to describe pain does not mean a person is not experiencing it. Assessing pain in people who are unable to express it is critical to appropriate care (Herr et al., 2011; IASP, 2012b).

Here are the steps to follow when someone cannot report their pain:

- 1) Attempt to have the person self-report.

It is always important to determine if self-report is possible, allowing people sufficient time to respond (Herr et al., 2011). A simple yes or no answer, or behavioural cues such as nodding or pointing to the assessment tool to indicate the presence or absence of pain is a valid way for a person to describe pain.

- 2) If a person is unable to self-report, rely on behavioural indicators or behavioural pain scales validated for the specific population they belong to and the context.

Behavioural pain scales are recommended when self-reporting pain is not possible (Herr et al., 2011). The nurse must select a pain scale that has been validated for use in the targeted population and context (Streiner & Norman, 2008). Several examples of behavioural pain assessment tools or scales are provided in the appendices. Refer to **Appendix I**, which provides examples of pain assessment tools validated for use in neonates and infants; **Appendix J**, outlines tools for

use in children; and [Appendix K](#), details tools for use in adults. Refer to [Appendix L](#), which presents a validated pain assessment tool for use in nonverbal, critically ill adults; and [Appendix M](#), which provides some tools validated for use in elders with cognitive impairment.

- 3) Obtain proxy reporting from family or caregivers about potential behaviour that may indicate pain.

Proxy reporting from people who know the person well can help the nurse detect changes in behaviour that may indicate the presence of pain (Herr et al., 2011). However, family and caregivers' proxy reports of pain intensity (i.e., 0 - 10 Numerical Rating Scale – NRS) have been shown to be inaccurate (Herr et al., 2011; Zhou et al., 2008). Therefore, it is important to combine proxy pain assessments with other evidence such as the results of direct observation with validated behavioural pain scales, the person's diagnosis, findings from their health history and physical examination (Herr et al., 2010; Zwakhalen, Hamers, Abu-Saad, & Berger, 2006).

- 4) Minimize emphasis on vital signs because they do not discriminate pain from other sources of distress (Herr et al., 2011).

Vital signs such as heart rate, blood pressure and respiratory rate should not be the sole source of information on the presence of pain. Studies using these vital signs to indicate the presence of pain in neonates, infants, children, adolescents and adults all have inconsistent findings. Herr et al. (2011) reported vital signs are not necessarily associated with self-reports of pain; they observed vital signs increasing, decreasing or remaining stable during painful procedures. Vital signs are easily accessible to nurses, but should only be part of a person's comprehensive pain assessment (Barr et al., 2013; Herr et al., 2011).

Validated behavioural tools are also only one component of a comprehensive pain assessment. In the absence of a self-report, the interpretation of a person's observed behaviour and proxy reporting from family and caregivers may not provide information on the presence, quality and intensity of the pain (Herr et al., 2010). Refer to [Appendix M](#), which outlines examples of pain assessment tools for use in elders with cognitive impairment that help to identify if pain is present but do not allow for the assessment of pain intensity.

RECOMMENDATION 1.4:

Explore the person's beliefs, knowledge and level of understanding about pain and pain management.

Level of Evidence = III

Discussion of Evidence:

People with pain have certain beliefs about pain-related practices shaped by their past pain experiences, age, education, culture or ethnicity, and gender (Bell & Duffy, 2009; Cornally & McCarthy, 2011; Watt-Watson, Stevens, Streiner, Garfinkel, & Gallop, 2001). A person's beliefs about pain often influence whether they will seek help for it and what strategies they will accept to manage it (Curry-Narayan, 2010; Peter & Watt-Watson, 2002). Difficulties arise when a person makes decisions based on erroneous beliefs formed by a lack of understanding and incomplete knowledge of pain.

A review of the literature by Al-Atiyyat (2008) highlights eight pain-related beliefs and concerns that prevent persons with cancer from reporting pain and taking medication:

- 1) fear of addiction;
- 2) concern about drug tolerance⁶;
- 3) belief that adverse effects from analgesics are even more bothersome than pain;
- 4) fatalism (i.e., a resigned attitude) about the possibility of achieving pain control;
- 5) belief that “good” patients do not complain about pain;
- 6) fear of distracting a physician from treating the disease;
- 7) belief that pain signifies disease progression; and
- 8) fear of injections.

Despite explanations or evidence to the contrary, misbeliefs about pain are often accepted as truth and are barriers to assessing and managing pain effectively. Nurses need to ask questions to uncover a person’s beliefs and concerns about pain.

Misbeliefs about pain are common. Health-care providers need to be aware of these misbeliefs and the facts about the assessment and management of pain. Tables 3 and 4 outline some common misbeliefs and facts about pain assessment and management for infants and children, and for adults and older persons.

Table 3. Misbeliefs and Facts About Infant and Children’s Pain

MISBELIEF	FACT
Infants’ nervous systems are immature and not capable of pain perception.	Infants have the anatomical and functional requirements for pain processing by mid to late gestation. Newborn infants are capable of the sensory-discriminative aspects of pain experience.
Infants are less sensitive to pain than older children and adults.	Term neonates have the same sensitivity to pain as older infants and children. In fact preterm neonates have a greater sensitivity to pain than term neonates or older children.
Infants are incapable of remembering therefore pain should have no lasting effects.	Repetitive exposure to pain may have cumulative effects and early exposure to significant pain may permanently affect children’s perceptions of, and reactions to, subsequent pain.
Infants must learn about pain from experience.	Pain requires no prior experience and is not learned. Pain is present with the first insult.

MISBELIEF	FACT
Infants and young children are incapable of expressing pain. If they are able to express pain, their pain cannot be assessed.	Although infants cannot verbalize pain they respond with behavioural cues and physiological indicators that can be accurately assessed. The most reliable approach in infants is facial expression. The most valid approach is through the use of a composite pain measure. Children as young as 3 years of age can use pain scales and by 4 years of age they can accurately point to the body area that hurts.
Opioids are more dangerous for infants and children than they are for adults (termed 'opioid phobia').	Infants older than one month of age metabolize drugs in the same manner as older infants and children. Careful selection of appropriate dose and dosing schedule, as well as frequent monitoring for desired and undesired effects, can minimize the potential adverse effects of. Addiction to opioids used to treat pain is extremely rare in children.

(Anand, 1999; Anand & Craig, 1996; Craig, 1998; Brummelte et al., 2012; Coskun & Anand, 2000; Morrison, 1991; Pattinson & Fitzgerald, 2004; Slater et al., 2010; Stinson et al., 2006; van Dijk & Tibboel, 2012; Yaster, Krane, Kaplan, Cote, & Lappe, 1997)

Table 4. Misbeliefs and Facts about Pain Assessment in Adults and Older Persons

MISBELIEFS	FACTS
People should expect to have considerable unrelieved pain with procedures such as surgery.	Unrelieved severe acute pain has pathophysiological consequences involving respiratory, cardiovascular, gastrointestinal, immune, neurological, musculoskeletal systems (Middleton, 2003) and may cause long-term pain (Kehlet, Jensen, & Woolf, 2006).
People who are in pain always have observable signs that are more reliable than their own self-reports.	Physiological adaptations occur quickly and should not be used instead of self-report when the latter is available (Arbour & Gélinas, 2010).
People will tell us when they are in pain and will use the term "pain".	People will not necessarily tell us when they are in pain and may not use the word pain (Watt-Watson et al., 2004).

MISBELIEFS	FACTS
People who use opioids for pain are addicts.	Opioids are a standard management intervention for moderate to severe pain with surgery, cancer, and persistent non-cancer pain (PNCP). Guidelines and screening tools are available at http://nationalpaincentre.mcmaster.ca/opioid/ to insure appropriate prescribing and administration with PNCP.
Pain is directly proportional to the tissue injury.	Pain is multidimensional and influenced by many factors so each person’s response to the same type of surgery, trauma or disease is individual and variable (Woolf, 2004).
Pain is a normal part of getting older and can never be very intense, pain sensation decreases with age.	Persistent pain is not a normal part of aging. The intensity and sensation of pain does not decrease in older persons. Inadequate pain management of potential or actual pain in older persons has numerous consequences (McAuliffe et al., 2009; Schofield et al., 2008).
Pain cannot be assessed with older persons who are cognitively impaired.	Older people with mild to moderate cognitive impairment are able to use scales adapted for their needs such as categorical numerical scales (Herr et al., 2011; McAuliffe et al., 2009; Schofield et al., 2008).

Note. Adapted with permission from “Misbeliefs about pain,” by J. Watt-Watson, 1992, in J. Watt-Watson & M. Donovan (eds.), *Pain management: Nursing Perspective*, p. 36-58. St. Louis, MO: Mosby, Inc. Copyright Elsevier (1992).

People and their families or caregivers need help to understand that unrelieved severe acute pain can cause long-term pain problems that affect body functioning (systemic, hormonal, metabolic, immunologic, physiological, cardiovascular and pulmonary function responses) (Anand et al., 2006; Kehlet et al., 2006; Oakes, 2011; Meeker, Finnell, & Othman, 2011). For example, it is assumed that pain is experienced when a person undergoes surgery. The expectation that some level of discomfort will occur often results in persons not asking health-care providers for pain management such as a prescription for analgesic (Watt-Watson et al., 2004). People need to be encouraged to communicate moderate to severe post-surgical pain because it interferes with deep breathing and limits movement, which can lead to other health issues such as pneumonia and delayed recuperation. Under-reporting of pain by persons can lead health-care professionals to underestimate it (Dewar, 2006; Schofield et al., 2008).

We encourage you to look at the tool for pain history for children presented in Recommendation 1.2, Table 2. The questions in the tool can be used by the nurse and interprofessional team to explore the knowledge, beliefs, needs and concerns of children and their parents and caregivers regarding pain and its management.

RECOMMENDATION 1.5:

Document the person's pain characteristics.

Level of Evidence = IIa

Discussion of Evidence:

Screening and assessment findings must be documented and communicated to everyone involved in a person's health care for optimal pain prevention and management (Crowe et al., 2008). Screening and comprehensive assessment of pain provides both subjective and objective data, from self reports and assessment tools. This information about the person's pain characteristics (such as pain history; sensory characteristics [intensity, quality, temporal features, location and what makes the pain better or worse]; impacts of pain on everyday activities; psychosocial impacts; cultural beliefs and effective interventions used to manage pain), when documented and communicated, can assist the team to make effective clinical judgments about the status of a person's pain and create an individualized plan of care to prevent or minimize it (Curry Narayan, 2010; RNAO, 2007). In follow-up, this information also provides baseline data to compare the results of future reassessments.

2.0 PLANNING**RECOMMENDATION 2.1:**

Collaborate with the person to identify their goals for pain management and suitable strategies to ensure a comprehensive approach to the plan of care.

Level of Evidence = Ib

Discussion of Evidence:

It is important to prevent, anticipate and manage pain whenever possible. Pain management interventions should aim to reduce the severity of pain and aim to improve function, sleep and overall quality of life (LeFort, Gray-Donald, Rowat, & Jeans, 1998; Moulin et al., 2007). A pain management plan must be based on findings from the person's assessment and incorporate the person's goals and effective and suitable pain-management strategies (American Geriatrics Society Panel on Pharmacological Management of Persistent Pain in Older Persons [AGS], 2009; Dewar, 2006; RNAO, 2007; SIGN, 2008).

Persons with the presence, or risk of, any type of pain must be involved in decisions about interventions proposed to manage their pain, and the strategies adopted for the plan of care must be tailored to meet the person's goals (needs and priorities) and preferences (Schofield & Reid, 2006). Randomized controlled trials report significant outcomes when nurses, the interprofessional team and the person and their family and caregivers collaborate in developing a comprehensive pain-management approach combining pharmacological (multimodal analgesic approach) and non-pharmacological interventions such as physiotherapy and psychological (cognitive behavioural therapy) (Cancer Care Ontario, 2008; LeFort et al., 1998; Moulin et al., 2007; National Opioid Use Guideline Group, 2010).

It is not uncommon for persons with the presence, or risk of, any type of pain to use complimentary or alternative therapies, such as acupuncture, homeopathy and naturopathy, along with conventional non-pharmacological interventions such as physiotherapy or psychological therapy. Brown et al. (2005) suggest that health-care providers consider the use of both traditional and non traditional non-pharmacologic strategies to optimize the management of persistent pain, help reduce the intensity of pain and minimize the amount of pharmacological intervention required (AGS, 2009; AMDA, 2012). It is important to discuss the person's preferred pharmacologic and non-pharmacologic pain management choices, to determine what they intend or are able to use and encourage them to comply with suitable interventions (Curry-Narayan, 2010). When a person is not able to participate in the discussions (i.e., infant, child or cognitive impairment), their family and caregivers would advocate for suitable interventions to manage pain based on what they know about the person and the situation.

RECOMMENDATION 2.2:

Establish a comprehensive plan of care that incorporates the goals of the person and the interprofessional team and addresses:

- Assessment findings;
- The person's beliefs and knowledge and level of understanding; and
- The person's attributes and pain characteristics.

Level of Evidence = III

Discussion of Evidence:

Establishing a pain-management plan based on the findings from the assessment and incorporating the person's beliefs and goals is important for minimizing pain and distress (Curry Narayan, 2010; RNAO, 2007).

After collaboration to ascertain the person's goals and preferences for the proposed pain-management strategies (i.e., willingness or intention to use), the interprofessional team must consider the potential for cross-therapy interactions^G. The team caring for the person must consult with experts (such as a psychologist, psychiatrist, physiotherapist, occupational therapist and social worker) when devising and implementing combinations of pharmacological, physical, and psychological therapies (Crowley et al., 2011; Schofield & Reid, 2006; Uman, Chambers, McGrath, & Kisely, 2006).

Each person's attributes (age, developmental stage, health condition, culture) and pain characteristics must be considered before strategies are proposed and incorporated into pain management plans (Curry-Narayan, 2010; Wilson-Smith, 2011). Untreated pain in infants and children, for example, places them at risk of adverse effects and long-term health and wellness problems (Cignaccio et al., 2007; RCN, 2009; Wilson-Smith, 2011). Therefore nurses must use strategies appropriate for the child's age and development (refer to [Appendix N](#)) to assess and manage his or her pain (Spence et al., 2010). Table 5 identifies some other key assessment and pain management considerations based on population groups: preterm and newborn infants; infants and young children; and older adult.

Table 5. Pain In Special Populations

POPULATION	KEY CONSIDERATIONS
Preterm and Newborn Infants	<p>Preterm and sick infants are exposed to numerous painful procedures during their hospitalization. Prevention and consistent management of pain is important to reduce adverse effects affiliated with repeated painful procedures. When planning drug dose, infant weight must be taken into consideration.</p>
Infants and Young Children	<p>Both sick and healthy infants and young children are exposed to multiple painful procedures during hospitalization and early childhood immunizations. Young children lack understanding and coping skills and often exhibit high levels of pain, distress and fear.</p> <p>Consistent effective management of pain caused by needles has the potential to reduce subsequent fear of medical care. Strategies are available to reduce pain and distress associated with immunization in infants and children.</p>
Older Adult	<p>The older adult may experience communication challenges associated with:</p> <ul style="list-style-type: none"> ■ Under reporting of pain, ■ Speaking a different language, and ■ Communication barriers (aphasia, cognitive impairments such as dementia, visual and hearing impairments). <p>When planning pharmacological interventions, the impact of age-related changes such as co-morbidities, co-existent diseases and use of multiple medications must be considered, as they put the older adult at high risk for medication-related adverse events.</p>
Critically ill	<p>Many critically ill patients are unable to self-report due to multiple factors such as mechanical ventilation, administration of high doses of sedative agents, and altered levels of consciousness. In addition to their reason for admission often related to pain, they are exposed to many painful procedures during hospitalization in a critical care unit. A high proportion of critically ill patients experience moderate to severe pain. Therefore, pain management includes the use of opioids, mainly through parenteral route. Continuous monitoring of physiologic parameters is necessary to ensure adequate surveillance of patients. Moreover, multi-modal approaches are strongly recommended but have to be carefully established taking according to the complex patient's condition and use of other medications. Non-pharmacological interventions are also suggested to maximize pain relief.</p>

(AMDA, 2012; AGS, 2009; Barr et al., 2013; Herr et al., 2011; Pillai Riddell et al., 2011; Stevens et al., 2011; Taddio et al., 2010)

3.0 IMPLEMENTATION

RECOMMENDATION 3.1:

Implement the pain management plan using principles that maximize efficacy and minimize the adverse effects of pharmacological interventions including:

- Multimodal analgesic approach;
- Changing of opioids (dose or routes) when necessary;
- Prevention, assessment and management of adverse effects during the administration of opioid analgesics; and
- Prevention, assessment and management of opioid risk.

Level of Evidence = Ib

Discussion of Evidence:

Multimodal analgesic approach

Randomized controlled trials report the effectiveness of a multimodal analgesic approach for pain management. A multimodal analgesic approach or pharmacologic intervention includes non-opioid analgesics such as non-steroidal anti-inflammatory drugs [NSAIDs]; opioids (e.g., morphine) and adjuvant^G medications (e.g., antidepressants, anticonvulsants, anaesthetic agents) that act through different mechanisms to modulate a person's pain (Cancer Care Ontario, 2008; AMDA, 2012; OCSMC, 2010; SIGN, 2008; Vargas-Schaffer, 2010). Nurses work with the interprofessional team to adjust the type, dose, route and scheduling of medications based on the person's response. This type of approach maximizes analgesic efficacy and can reduce overall opioid use whilst minimizing adverse effects (RNAO, 2007; Vargas-Schaffer, 2010).

To maximize efficacy and minimize the adverse effects of a multimodal analgesic approach nurses should use the following principles to guide practice:

1. Use the most efficacious and least invasive way to administer analgesics.
2. Consider a multimodal analgesic approach to pain management:
 - Use non-opioids to manage mild to moderate pain (acetaminophen or NSAIDs);
 - Use opioids in combination with non-opioids to manage moderate to severe pain; and
 - Use advanced modalities such as patient-controlled analgesia [PCA]^G, epidural^G, intrathecal^G, and nerve blocks, which may provide superior analgesia to manage persistent, non-malignant or cancer pain and acute pain experienced from major surgical procedures or injury (Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine [ANZCA], 2010; Vargas-Schaffer, 2010).

In complex pain situations, routine use of non-opioids is not mutually exclusive and may be used in combination with other modalities.

- RECOMMENDATIONS
3. Advocate for the most effective dosing schedule, considering the medication(s) duration of onset, effect(s) and half-life. The optimal analgesia dose is one that effectively relieves pain with minimum adverse effects.
 4. Recognize potential contraindications, such as co-morbidities or drug-drug interactions, related to the person's clinical condition.
 5. Titrate any pain medications to achieve the maximum effectiveness whilst minimizing adverse effects. Analgesic dosing in older adults requires careful titration for optimum pain relief because age-adjusted dosing is not available for most analgesics (Schofield et al., 2008).
 6. Anticipate and manage the adverse effects from pharmacologic interventions. Nursing actions should include:
 - a. If necessary, initiating treatment in consultation with the team to manage adverse effects. Websites such as Pain Treatment Topics <http://pain-topics.org/> and Fraser Health Hospice Palliative Care Symptom Guidelines at http://www.fraserhealth.ca/professionals/hospice_palliative_care/ are available to assist with the management of adverse effects;
 - b. Review and determine with the interprofessional team and person which pharmacological agent or contributing factors caused adverse effects; and
 - c. Educate the person and their family and caregivers on potential adverse effects and strategies used to prevent or manage them, based on the type effect (nausea, vomiting, or constipation from use of opioids).
 7. Consider consulting the interprofessional team or pain-management experts for complex pain situations, such as:
 - a. Pain that does not respond to standard pain management interventions;
 - b. Multiple sources of pain;
 - c. Mixed neuropathic and nociceptive pain;
 - d. History of substance use disorders (RNAO, 2007; 2009); and
 - e. Opioid-tolerant persons undergoing procedures or having exacerbations of pain.

Changing opioids (doses or routes)

Opioid analgesics are used in the management of moderate to severe pain and should be available to a person in the *form, route, dose and schedule* that best meets a person's needs (RNAO, 2007). To optimize pain management, opioid analgesics may need to be changed. There are many reasons for changing a person's opioid medication including unavailability, ineffectiveness, contraindications and adverse effects, preference or cost.

Equianalgesia conversion tables, which list equivalent opioid analgesics, are available to assist health-care providers to optimize pain management in adults when the opioid analgesic form, route, dose and schedule must be changed. Equianalgesia tables use morphine sulfate 10mg parenterally (route other than gastrointestinal) as the standard comparison for other alternative opioid analgesics and doses to produce the equivalent effect (RNAO, 2007). Equianalgesia conversion tables are for adults, and if the analgesic form, route, dose or schedule is to be changed in children it needs to be carefully supervised.

Nurses should understand the principles of equianalgesia dosing when changing opioid analgesics and refer to their organization's approved equianalgesia conversion table to ensure substitutions produce the equal and desired pain management effects (AMDA, 2012; ANZCA, 2010; Patanwala, Keim, & Erstad, 2010; SIGN, 2008).

Prevention, assessment and management of adverse effects during the administration of opioid analgesics

Nurses need to recognize the variability in each person's response to opioid analgesics (OCSMC, 2010; RNAO, 2007). For example, RNAO (2007) identifies that nurses should anticipate, and monitor persons taking opioids for common adverse effects such as nausea, vomiting, constipation and drowsiness. Nurses working with the interprofessional team should anticipate the potential for adverse effects and institute measures to prevent and manage them.

Sedation can be a common adverse effect when initiating opioids and when increasing opioid doses for pain management. Sedation generally precedes significant respiratory depression. Gradual increase in sedation is an early warning sign and a particularly sensitive indicator of impending respiratory depression in the context of opioid administration (Pasero, 2009; Jarzyna et al., 2011).

Regular serial systematic sedation and respiratory assessments (refer to [Appendix O](#), for an example of a sedation and respiratory assessment) are recommended to evaluate the person's response during opioid therapy and should be considered with:

- People with no prior use of opioid analgesics, especially during the first 24 hours after initiation;
- Increased dose(s) of opioids;
- Aggressive titration of opioids;
- Concurrent use of medications that depress the central nervous system, for example sedative agents, benzodiazepines, and antiemetics;
- Recent or rapid change in the function of vital organs such as hepatic, renal or pulmonary failure;
- Change in opioid medication or route of delivery; and
- Pre-existing risk factors for respiratory depression such as obstructive sleep apnea, obesity or existing cardiopulmonary dysfunction (Jarzyna et al., 2011).

When children receive opioid medications it is very important to assess their alertness. The University of Michigan Sedation Scale (UMSS) is an example of a tool specifically designed for the monitoring and evaluation of sedation in children. This allows health-care providers to recognize when a child is approaching over-sedation. This scale's observational and objective measures have been validated for identifying sedation in children, however it is limited in distinguishing moderate from deep sedation (Malviya, Voepel-Lewis, & Tait, 2006).

Nurses and interprofessional teams must frequently monitor a person's response to opioids to ensure the person's safety and avoid unintentional sedation and respiratory depression, particularly for people with no prior use of opioids. Nurses should be aware that opioid induced sedation is not the same as intentional goal directed sedation used during procedures or in ventilated persons in critical care (Pasero, 2009). In palliative care, opioid induced sedation is an effect that can occur with use of opioids to control of pain due to a terminal condition.

Prevention, assessment and management of opioid risk

The National Opioid Use Guideline Group (NOUGG) (2010) recommends monitoring for misuse of opioids on implementation for pain management. Signs of misuse include inappropriate escalating doses, use of alternative routes of delivery and engagement in illegal activities (NOUGG, 2010). An Opioid Risk Tool (ORT) is available in the *Canadian Guideline for Safe and Effective Use of Opioids for Chronic Non-Cancer Pain – Part B* at <http://nationalpaincentre.mcmaster.ca/opioid/documents.html> to identify if a person is low, moderate or high risk for misuse or aberrant drug-related behaviour based their personal and family history of substance abuse, age, history of preadolescent sexual abuse, depression and other psychiatric history. Other tools which are in a questionnaire form are the Screener and Opioid Assessment for Patients with Pain® (SOAPP®) and Current Opioid Misuse Measure® (COMM®) which are also available in the same guideline.

RECOMMENDATION 3.2:

Evaluate any non-pharmacological (physical and psychological) interventions for effectiveness and the potential for interactions⁶ with pharmacological interventions.

Level of Evidence = Ib

Discussion of Evidence:

Non-pharmacological interventions, whether physical, such as physiotherapy or massage, or psychological, such as cognitive behaviour therapy, are often used with pharmacological interventions to manage pain. The team should explore the person's beliefs about, and use of, complimentary or alternative forms care (Curry Narayan, 2010). Persons with the presence, or risk of, any type of pain may have explored and used more non-traditional interventions (also known as complimentary or alternative therapies) such as acupuncture, homeopathy, naturopathy and application of energy to manage their pain. Randomized controlled trials report improved outcomes when nurses, collaborating with their teams, explore the effectiveness of any, physical or psychological intervention being proposed; take into consideration the person's type of pain, health condition, cultural beliefs and age group; and determine the potential for interactions with prescribed pharmacologic interventions (Castillo-Bueno et al., 2010; Curry-Narayan, 2010; RNAO, 2007; Schofield et al., 2008; Wilson-Smith, 2011).

Non-pharmacological interventions

Physical

Physical interventions such as physiotherapy and exercise (Reid et al., 2008), massage (SIGN, 2008; Running & Turnbeaugh, 2011), and application of heat or cold (RNAO, 2007) should be considered along with pharmacological interventions to reduce pain, improve sleep, mood and general well-being (RNAO, 2007). When using more specialized interventions (TENS, acupuncture) consult the appropriate interprofessional team member such as physical therapist or occupational therapist for assistance (Nnoaham & Kumbang, 2008). Non-pharmacological approaches should not be used as a substitute for adequate pharmacological management (RNAO, 2007).

Psychological

Psychological (psychosocial) interventions such as cognitive behaviour therapy, music, distraction, relaxation techniques^G and education should be considered in pain management because these interventions affect the way a person thinks feels and responds to pain (Crowe et al., 2008; OCSMC, 2010; RNAO, 2007; Seers & Carroll, 1998; SIGN, 2008). Psychological interventions related to education have been shown to assist with coping and enhancing the person's ability to self-manage to lessen pain (post-operative pain) (Crowe et al., 2008; RNAO, 2007).

The evidence varies on the effectiveness of the following physical and psychological non-pharmacological interventions when they are used alone or in combination with pharmacological interventions:

- Psychological interventions (Dewar, 2006);
- Cognitive behavioural therapy (Eccleston, Williams, & Morley, 2013; Schofield & Reid, 2006);
- Non-nutritive sucking, touch/massage and swaddling in infants and children up to three years of age (Pillai Riddell et al., 2011); and
- Massage, relaxation, exercise, energy flow and education in older adult (AGS, 2009; Schofield & Reid, 2006).

The effectiveness of non-pharmacological interventions should not be generalized for use in all persons and only be proposed based on the best evidence of their effectiveness for the person's population group (such as age, pain characteristics [refer to Recommendations 1.1 and 1.5]) and health condition.

For additional up-to-date information on the use of non-pharmacological (physical, psychological) interventions for pain management, refer to the National Centre for Complementary and Alternative Medicine (NCCAM), available at <http://nccam.nih.gov/>.

RECOMMENDATION 3.3:

Teach the person, their family and caregivers about the pain management strategies in their plan of care and address known concerns and misbeliefs^G.

Level of Evidence = Ib

Discussion of Evidence:

Randomized control trials report effective pain management is influenced by a person's level of education, beliefs and concerns (Bell & Duffy, 2009; Curry-Narayan, 2010; Dewar, 2006; Meeker et al., 2011; Watt-Watson et al., 2004). A person and their family and caregivers should receive education on both pharmacologic and non-pharmacologic interventions in the care plan, the potential adverse effects of those interventions and information to correct inaccurate beliefs and ease concerns to prevent or minimize fears about management of their pain (refer to Recommendations 1.4, 3.1, 3.2, 7e).

This education may help effective adoption and use of pain management strategies by the person and their family and caregivers (Dewar, 2006; Watt-Watson et al. 2004). For example, the family and caregivers of persons with presence, or risk of, any type of pain might not believe all the person's reports of pain and then fail to report or minimize its extent when talking to his or her health-care providers and prevent them from prescribing appropriate doses of analgesics. (Meeker et al., 2011).

Education should include but not be limited to:

- Reinforcing the importance of communicating pain;
- How and when to communicate one's pain experience;
- Explaining communication of pain is not perceived by health-care professionals as complaining;
- Information on pharmacological, physical and psychological pain management options, emphasizing both risks and benefits (Monsivais & McNeill, 2007); and
- Information on potential adverse effects and strategies for dealing with them (Bell & Duffy, 2009; Watt-Watson et al., 2004).

In special populations or persons unable to self-report, nurses must instruct and educate families and caregivers on:

- Implementing pharmacological, physical or psychological pain management interventions for which they will be responsible;
- Observing behaviours that indicate the presence of pain in persons unable to self-report; and
- Assessing and monitoring the effectiveness of the interventions.

To avoid any barriers to optimal pain relief, nurses need to ensure persons and their families and caregivers understand the difference between drug addiction, tolerance and dependency^G. Nurses should be careful when explaining these terms to facilitate understanding and allay fears about addiction (RNAO, 2007; 2009).

The person and their family/caregivers should be educated on the need to monitor and reassess pain management interventions for optimum pain relief and adverse effects (AGS, 2009).

4.0 EVALUATION

RECOMMENDATION 4.1:

Reassess the person's response to the pain management interventions consistently using the same re-evaluation tool. The frequency of reassessments will be determined by:

- Presence of pain;
- Pain intensity;
- Stability of the person's medical condition;
- Type of pain e.g. acute versus persistent; and
- Practice setting.

Level of Evidence = IIb

Discussion of Evidence:

Ongoing monitoring and evaluation of a person's response to pain management interventions is necessary to adjust the strategies and ensure effective pain control and minimization of adverse effects (AGS, 2009; AMDA, 2012; Herr et al., 2010; RNAO, 2007). A person's response to pharmacological, physical and psychological interventions can vary over time. Monitoring and reassessing the person's responses helps ensure their safety and effectiveness (AMDA, 2012; Herr et al., 2010), but it is important to consistently use the same tool each time to get accurate reassessments on the presence and

intensity of pain. However, nurses should consider whether changes in a person's condition indicate a need to determine if the tool being used is still valid (refer to Recommendation 1.2 and 1.3).

How often people should be monitored and reassessed depends on the interventions being used, the stability of the person's medical condition, and the person's self reports of the severity of pain or behavioural pain responses and associated distress (AMDA, 2012; RNAO, 2007, Spence et al., 2010; SIGN, 2008). For example, Spence et al. (2010) say newborns and infants should be assessed on admission and then reassessed with routine care, every shift, and whenever they appear to be uncomfortable or on substantial change in their condition. However based on responses from persons living with pain, the SIGN guideline, *Control of Pain in Adults with Cancer (2008)* states that it is important to reassess a person's response to interventions frequently, at least twice a day.

The intensity of monitoring (frequency and duration) depends on a person's risk profile and the onset and duration of action or potential adverse effects of the interventions (pharmacologic, non-pharmacologic [physical, or psychological]) (Jarzyna et al., 2011). For example, ongoing use of opioid analgesics for pain management can result in unintended sedation leading to respiratory depression. The American Society for Pain Management Nursing Guidelines, *Monitoring for Opioid-Induced Sedation and Respiratory Depression (2011)*, Jarzyna et al. (2011) and Pasero (2009) recommend hospitalized persons have routine sedation and respiratory assessments (refer to [Appendix O](#)) whether they are awake or asleep, to monitor for unintended sedation and to avoid the risk of respiratory depression.

Monitoring the person's health outcomes such as presence and severity of pain, impacts to function and mobility after pain management interventions is required to determine if there is a need to modify care. If changes are required based on the reassessment, the interprofessional team must discuss proposed changes to pharmacological and non-pharmacological interventions, outline their benefits and risks, and revise the pain management plan for optimal health outcomes (OCSMC, 2010).

RECOMMENDATION 4.2:

Communicate and document the person's responses to the pain management plan.

Level of Evidence = IIb

Discussion of Evidence:

Communication and documentation by nurses supports care and treatment by the interprofessional team, the person, and the person's family and caregivers (College of Nurses [CNO], 2008; Crowe et al., 2008; RNAO, 2012a). Nursing documentation is also a professional and legal requirement that promotes:

- Safe, effective and ethical pain care.
- Continuity of care across interprofessional team.
- Communication of the:
 - Plan of care;
 - Assessment findings (refer to Recommendation 1.5);
 - Effectiveness of implemented interventions;
 - Education provided to the person on their condition, plan of care, assessment and reassessment findings; and
 - Follow-up actions to reassessments to ensure optimal health outcomes (CNO, 2008).

- Active involvement of the person and their family/caregivers in the development and monitoring of their pain management plan. For example, in the community, a pain diary can help a person communicate with health-care providers about their pain and response to interventions (Cancer Care Ontario, 2008; OCSMC, 2010).

Documentation needs to be accessible to all the interprofessional team members involved in the person's care (Canadian Nurses Association [CNA], 2008). Documentation communicates the care activities of each interprofessional team member such as the assessment, planning and implementation of interventions and validates the monitoring and evaluation of a person's response and ability to adhere to the plan of care and the follow-up actions by the team (refer to Recommendations in sections 1.0, 2.0, 3.0) (Goldberg & Morrison, 2007; Jarzyna et al., 2011).

In contrast, the absence of clear communication and documentation of pain management (including date and time; pain type, severity, rating, location, and quality; pharmacological and non-pharmacological interventions; the person's response; and any adverse effects) affects the ability of the nurse and the team to evaluate the effectiveness of the plan and determine whether different interventions are needed (AMDA, 2012; ANZCA, 2010; Cancer Care Ontario, 2008; OCSMC, 2010; RNAO, 2007; SIGN, 2008; Taddio et al., 2010).



Education Recommendations

5.0 RECOMMENDATIONS FOR EDUCATION

RECOMMENDATION 5.1:

Educational institutions should incorporate this guideline, *Assessment and Management of Pain (3rd ed.)*, into basic and interprofessional curricula for registered nurses, registered practical nurses and doctor of medicine programs to promote evidence-based practice.

Level of Evidence = IIb

Discussion of Evidence:

Members of the interprofessional team play a vital role in the assessment and management of pain. Students of nursing and other health-care professions should be taught theory and be able to demonstrate at entry to practice they have the clinical competencies for assessing and managing pain, regardless of the population group or setting. Canadian curricula should enhance pain education to ensure students acquire entry-to-practice pain competencies. For more information on competencies and on the theoretical components for the effective assessment and management of pain refer to Canadian Nurses Association's entry-to-practice pain competencies available at <http://www.cna-aiic.ca/en/becoming-an-rn/rn-exam/competencies/> and the IASP [2012c] nursing curriculum available at <http://www.iasp-pain.org/AM/Template.cfm?Section=Nursing>.

Education on the ethical and legal implications of not assessing, managing and monitoring pain must be included in the curriculum. Programs should not focus just on knowledge and skills; they must also examine nursing students' beliefs about pain assessment and management if they are to support long-term practice changes. Moreover, programs must be updated on a regular basis and new knowledge, techniques and or technologies should be integrated into the curriculum (ANZCA, 2010; RNAO, 2007). According to Cummings et al (2011) suggest successful educational programs include:

- A committed interprofessional team of content experts;
- Pre-constructed education materials; and
- A standardized approach to the delivery of the education material.

The RNAO expert panel suggests incorporating the best practice guideline, *Assessment and Management of Pain (3rd ed.)* into interprofessional curricula to ensure health-care professionals are provided with the evidence-based knowledge, skills and tools needed to assist in assessing and managing people with the presence, or risk of, any type of pain.

RECOMMENDATION 5.2:

Incorporate content on knowledge translation strategies into education programs for health-care providers to move evidence related to the assessment and management of pain into practice.

Level of Evidence = IIb

Discussion of Evidence:

In a systematic review and meta-analysis of the effectiveness of knowledge translation strategies to improve cancer pain management by Cummings et al., (2011), the use of strategies such as educational programs, follow-up and resource allocation aimed at health-care providers, persons with the presence, or risk of, any type of pain and their caregivers improved knowledge, skills and beliefs about pain, and resulted in significantly better pain management. All educational programs should include content on knowledge translation strategies to enhance health-care provider awareness and understanding of how to move research (best practice guidelines) into practice because of the potential to improve health outcomes (Canadian Institute of Health Research [CIHR], 2009).

The RNAO, *Toolkit: The Implementation of Best Practice Guidelines Second Edition* (RNAO, 2012b) and CIHR (2009) identify knowledge translation as a dynamic and iterative process that can lead to improved health outcomes. Use of knowledge translation process and the various strategies to promote the inquiry and synthesis of knowledge, dissemination of tools and best practices and support the exchange and application of ethically-sound contextual knowledge on pain can assist health-care providers to improve pain assessment and management practices (CIHR, 2009; Peter & Watt-Watson, 2002; RNAO, 2012b).

RECOMMENDATION 5.3:

Promote interprofessional education and collaboration related to the assessment and management of pain in academic institutions.

Level of Evidence = Ib

Discussion of Evidence:

In interprofessional education, students are educated to work collaboratively as an interprofessional team. Effective health-care providers are collaborative practitioners who understand the importance of working together with colleagues, the person, and their family and caregivers to achieve optimal safety and pain outcomes (Irajpour, 2006; Kavanagh, Watt-Watson, & Stevens, 2007; Watt-Watson, Siddall, & Carr, 2012).

The Canadian Interprofessional Health Collaborative (CIHC) is working to improve interprofessional care at the clinical and organization level by focusing on initiatives to assist health-care providers to connect in meaningful ways to improve care outcomes. More information on CIHC resources and initiatives for interprofessional education and collaboration is available at <http://www.cihc.ca>.

Randomized controlled trials report improved professionals' knowledge, beliefs and skills in developing care plans for pain management with an interprofessional approach and strategy (Watt-Watson et al., 2004; Watt-Watson et al., 2009). In 2002, the University of Toronto Centre for the Study of Pain developed, implemented and evaluated a mandatory 20-hour interprofessional pain curriculum (Hunter et al., 2008; Watt-Watson et al., 2004). More information on the content of this curriculum is available at <http://www.utoronto.ca/pain/research/interfaculty-curriculum.html>. The IASP (2012c) has developed an interprofessional pain curriculum outline in recognition of the importance of interprofessional learning for the development of effective pain management outcomes (see Recommendation 5.1). Core pain competencies essential to all health professionals are now available to support the IASP document (Fishman et al., 2013)

RECOMMENDATION 5.4:

Health-care professionals should participate in continuing education opportunities to enhance specific knowledge and skills to competently assess and manage pain, based on this guideline, *Assessment and Management of Pain (3rd ed.)*.

Level of Evidence = IV

Discussion of Evidence:

Assessment and management of pain in persons with the presence, or risk of, any type of pain is a complex and dynamic process that requires a team of health-care professionals with specialized knowledge and skills. The knowledge and skills necessary to assess and manage all aspects of pain assessment and management may not be practiced by students in an entry-level program. Therefore, health-care professionals should take accredited continuing education courses to receive training on assessing and managing pain with support (time, access and funding) from their health-care organization. The team should adopt a person-centred approach^G and have a sound base of knowledge for solving problems and ensuring their work is evidence-based and aligned with their organization's policies and procedures.

Refer to **Appendix D**, for a list of websites with resources and information to support the assessment and management of pain.

Organization and Policy Recommendations

6.0 RECOMMENDATIONS FOR ORGANIZATION AND POLICY

RECOMMENDATION 6.1:

Establish pain assessment and management as a strategic clinical priority.

Level of Evidence = IV

Discussion of Evidence:

Organizations must recognize that all people have the right to the best pain management possible (Canadian Pain Society, 2010). Organizations must make pain assessment and management a strategic priority (refer to Background section for prevalence and impacts of inadequate pain management) to ensure safe and effective care outcomes (ANZCA, 2010; Czarnecki et al., 2011; IASP, 2012b).

To achieve this, organizations need:

- Standards, policies and procedures to assess and manage pain effectively;
- Standardized tools for documenting and communicating pain assessment and management strategies and outcomes;
- Consistent use of validated assessment tools across teams and settings, appropriate for specific populations and contexts of care;
- Pain education that includes orientation of new staff to the organization's pain management policies, procedure and practices and ongoing professional development; and
- Continuous quality improvement initiatives to evaluate pain assessment and management processes and outcomes.

Integrating assessment forms into documentation processes and documentation systems can also help guide staff through the required steps needed to effectively assess and manage pain (Courtenay & Carey, 2008; Goldberg & Morrison, 2007; Irajpour, Norman, & Griffiths, 2006; Twycross, 2010; RNAO, 2007).

RECOMMENDATION 6.2:

Establish a model of care to support interprofessional collaboration for the effective assessment and management of pain.

Level of Evidence = IIb

Discussion of Evidence:

To support positive health outcomes and satisfaction with pain management, organizations must adopt models of care that support interprofessional team communication and collaboration (refer to Recommendations in sections 1.0, 2.0, 3.0, 4.0, 5.0 for importance of interprofessional team collaboration in the assessment and management of pain). The model of care should support the interprofessional team's use of formalized policies and procedures, integrated care processes through use of clinical pathways, and promote consultation and education among interprofessional team members for optimum outcomes associated with the assessment and management of pain (Brink-Huis, van Achterberg, & Schoonhoven, 2008; Dewar, 2006).

Swafford, Miller, Tsai, Herr, & Ersek (2009) and Dewar (2006) give evidence for organizations to adopt these practices:

- Using pain specialists or consultants for complex pain issues;
- Developing pain “champions”;
- Using standardized evidence-based clinical decision-making tools for assessing and managing pain;
- Engaging key stakeholders in the organization when considering changes to pain care;
- Doing team-building to improve communication between nurses and others on interprofessional teams;
- Regularly evaluating pain assessment and management processes and outcomes with pain quality indicators; and
- Regularly reviewing the impact of these factors on ensuring optimum outcomes: 1) model of care; 2) staff skill-mix; 3) education initiatives for interprofessional staff; and 4) education materials used for persons with the presence, or risk of, any type of pain.

RECOMMENDATION 6.3:

Use the knowledge translation process and multifaceted strategies within organizations to assist health-care providers to use the best evidence on assessing and managing pain in practice.

Level of Evidence = III

Discussion of Evidence:

Organizations can use the knowledge translation process and the variety of knowledge transfer strategies to influence health-care providers' adoption and uptake of best practices in pain management to improve outcomes and satisfaction of persons with the presence, or risk of, any type of pain (Goldberg & Morrison, 2007; RNAO, 2012b; Zhu et al., 2012).

Effective knowledge translation strategies used in organizations to enhance the uptake of best practices associated with the assessment and management of pain include:

- Developing pain champions in the organization;
- Identifying key knowledge and skills associated with effective pain management;
- Using best-practice guidelines;
- Identifying facilitators who can maximize use of best practices for assessing and managing pain;
- Introducing health-care providers and persons with the presence, or risk of, any type of pain to various sources of information on dealing with pain, including web-based learning, videos, and documents (Goldberg & Morrison, 2007; RNAO, 2012a; Zhu et al., 2012).

Different knowledge translation strategies work for different groups, or in different contexts, which organizations have to take into consideration when they are designing programs to share information and improve practice. Organizations must assess which resources and structures will support the sustained use of best practices by health-care teams. Options such as documentation systems, practice alerts, quality audits, feedback and ongoing education may all be appropriate at different times. (RCN, 2009; Zhu et al., 2012).

RECOMMENDATION 6.4:

Use a systematic organization-wide approach to implement *Assessment and Management of Pain (3rd ed.)* best practice guideline and provide resources and organizational and administrative supports to facilitate uptake.

Level of Evidence = IV

Discussion of Evidence:

RNAO had a panel of nurses, researchers and administrators develop the *Toolkit: Implementation of Best Practice Guidelines (2nd ed.)* (RNAO, 2012b), using evidence, theoretical perspectives and expert consensus^G. The *Toolkit* is designed to help you successfully implement guidelines. We strongly recommend you use the toolkit when implementing this guideline (refer to [Appendix P](#)).

An effective organizational plan for implementing guidelines includes:

- Assessing the organization's readiness for implementation and barriers to it;
- Involving all members in implementation, either directly or in a supportive function;
- Reinforcing the importance of best practices through ongoing education;
- Appointing one or more qualified individuals to support the education and implementation process; and
- Offering opportunities for personal and organizational reflections on implementing guidelines.

Research Gaps and Future Implications

The Registered Nurses’ Association of Ontario expert panel, in reviewing the evidence for this edition of the guideline, identified these priority areas for research. They are broadly categorized into practice, outcome and health-system research (refer to Table 6).

Table 6. Priority Practice, Outcomes and Health System Research Areas

CATEGORY	PRIORITY RESEARCH AREA
Practice research	Use of pain assessment tools with people unable to self report across the lifespan.
	Pain assessment and management approaches in long-term care residential settings.
	Effective interprofessional pain curriculum content, teaching strategies, and course or program duration required for health-care providers to acquire the knowledge and skills for entry to practice pain competencies and for ongoing professional development on pain management.
Outcome research	Impact of family/caregivers’ involvement on the effectiveness of a person’s management of their pain.
	Impact of the use of pain assessment tools with people unable to self-report on pain practices and clinical outcomes.
	Efficacy of select pharmacological, physical, and psychological pain-relieving strategies across the lifespan.
	Evaluating knowledge translation strategies for effectiveness in moving evidence on pain management into clinical practice.
Health-system research	Impact of electronic documentation systems on pain assessment and management practices and health outcomes.
	Evaluation of organizational structures to improve pain outcomes.
	Identification of standardized instruments to evaluate the effectiveness of education and teaching programs for effective learning of curriculum content, and competencies in pain practices.

This list, although not exhaustive, is an attempt to identify and rank the research needed in this area. Many of our recommendations are based on quantitative and qualitative research evidence. Other recommendations are based on consensus or expert opinion. Further substantive research is required to validate the expert opinion. Better evidence will lead to improved practice and outcomes for persons who require assessment and management of their pain.

Implementation Strategies

Implementing guidelines at the point of care is multifaceted and challenging; it takes more than awareness and distribution of guidelines to get people to change how they practice. Guidelines must be adapted for each practice setting in a systematic and participatory way, to ensure recommendations fit the local context (Straus, Tetroe, & Graham, 2009). Our *Toolkit: Implementation of Best Practice Guidelines (2nd ed.)* (RNAO, 2012b) provides an evidence-informed process for doing that.

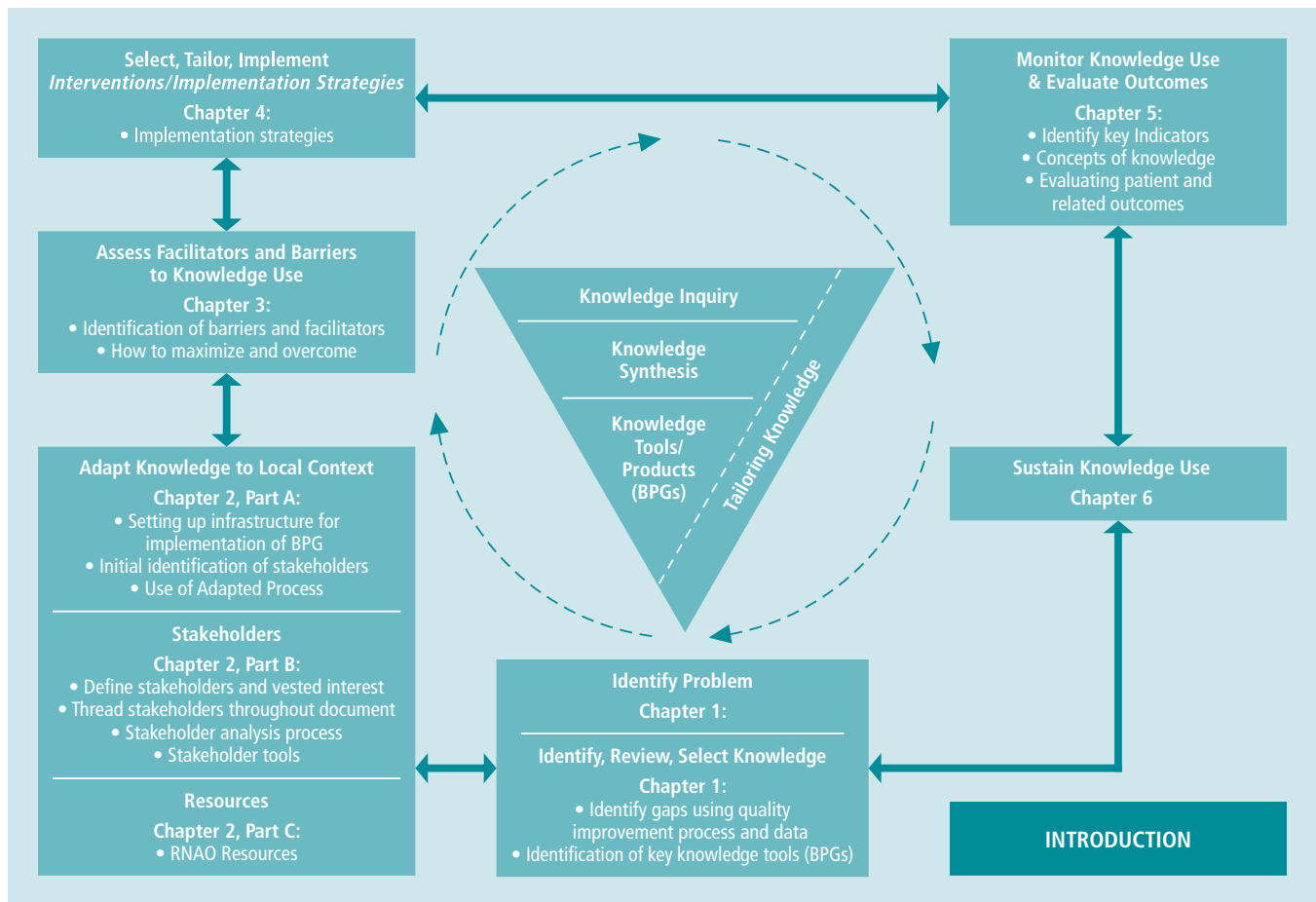
The *Toolkit* is based on emerging evidence that successful uptake of best practice in health care is more likely when:

- Leaders at all levels are committed to supporting guideline implementation;
- Guidelines are selected for implementation through a systematic, participatory process;
- Stakeholders for whom the guideline is relevant are identified and engaged in the implementation;
- Environmental readiness for implementing guidelines is assessed;
- The guideline is tailored to the local context;
- Barriers and facilitators to using the guideline are assessed and addressed;
- Interventions to promote use of the guideline are selected;
- Use of the guideline is systematically monitored and sustained;
- Evaluation of the guideline's impact is embedded in the process;
- There are adequate resources to complete all aspects of the implementation.

The *Toolkit* uses a knowledge-to-action model, shown below, that depicts the process of choosing a guideline in the centre triangle, and follows detailed step-by-step directions for implementing recommendations locally.



Figure 2. Revised knowledge-to-action framework



Note. Adapted from “Straus, S., Tetroe, J., Graham, I.D., Zwarenstein, M., & Bhattacharyya, O. (2009). Monitoring and evaluating knowledge. In: S. Straus, J. Tetroe and I.D. Graham (Eds.). *Knowledge translation in health care* (pp.151-159). Oxford, UK: Wiley-Blackwell

The Registered Nurses’ Association of Ontario (RNAO) is committed to widespread deployment and implementation of our guidelines. We use a coordinated approach to dissemination, incorporating a variety of strategies, including the Nursing Best Practice Champion Network®, which develops the capacity of individual nurses to foster awareness, engagement and adoption of BPGs; and the Best Practice Spotlight Organization® (BPSO®) designation, which supports implementation at the organizational and system levels. BPSOs focus on developing evidence-based cultures with the specific mandate to implement, evaluate and sustain multiple RNAO best practice guidelines. In addition, we offer capacity-building learning institutes on specific guidelines and their implementation annually. (RNAO, 2012b, p. 19-20).

Information about our implementation strategies can be found at:

- RNAO Best Practice Champions Network : <http://rnao.ca/bpg/get-involved/champions>
- RNAO Best Practice Spotlight Organizations: <http://rnao.ca/bpg/bpso>
- RNAO capacity-building learning institutes and other professional development opportunities : <http://rnao.ca/events>
- RNAO’s nursing order sets as a tool to facilitate BPG implementation, please email BNOS@rnao.ca.

Evaluating and Monitoring this Guideline

As you implement the recommendations in this guideline, we ask you to consider how you will monitor and evaluate its implementation and impact.

Table 7 is based on a framework outlined in the *Toolkit: Implementation of Best Practice Guidelines (2nd ed.)*, (RNAO, 2012b) and illustrates some specific indicators for monitoring and evaluation of this guideline.

TABLE 7. Structure, Process and Outcome Indicators for Monitoring and Evaluating This Guideline

LEVEL OF INDICATOR	STRUCTURE	PROCESS	OUTCOME
Objectives	To evaluate the supports in the organization that allows nurses and the interprofessional team to integrate into their practice assessment and management of pain.	To evaluate changes in practice that lead towards improved assessment and management of pain.	To evaluate the impact of implementing the guideline recommendations.
System	<ul style="list-style-type: none"> ■ Review of best practices associated with for assessing and managing pain by a system-level committee responsible for quality of care across the health-care system. ■ Availability of education resources in academic settings for professional (i.e., nursing, medicine) development programs, which are consistent with best practices for assessing and managing pain. 	<ul style="list-style-type: none"> ■ Development of systems that encourage health-care organizations to adopt policy and procedures consistent with best practices for assessing and managing pain. ■ Concrete procedures and processes to ensure academic settings' health-care professional development programs are updated with best practices for assessing and managing pain. 	<ul style="list-style-type: none"> ■ Evidence of health-system outcomes associated with effective and safe pain-management practices. ■ Support for health-care professionals to develop core competencies associated with assessing and managing pain.

RECOMMENDATIONS

LEVEL OF INDICATOR	STRUCTURE	PROCESS	OUTCOME
<p>Organization/ Unit</p>	<ul style="list-style-type: none"> ■ Review of best practice recommendations by organizational committees responsible for policy and procedures. ■ Review the validity of pain assessment tools for use in the organization by nurses and the interprofessional team. ■ Availability of education for persons with the presence, or risk of, any type of pain, and their family and caregivers consistent with best-practice recommendations. ■ Provision of resource people for nurses and the team to consult for support during and after the initial implementation period. 	<ul style="list-style-type: none"> ■ Development of forms or systems that encourage documentation of assessment and management of pain. ■ Develop procedures for evaluating and assessing tools for use in the organization, based on population served (infant, children, adult, older persons). ■ Concrete procedures that encourage dissemination and uptake of information to educate persons with the presence, or risk of, any type of pain, and their family and caregivers. ■ Concrete procedures are in place for making internal and external referrals to resource people on pain management and services. 	<ul style="list-style-type: none"> ■ Incorporation of assessing and managing pain in staff orientation program. ■ Adoption of valid standardized pain-assessment tools. ■ Referrals internally and externally.

LEVEL OF INDICATOR	STRUCTURE	PROCESS	OUTCOME
Provider	<ul style="list-style-type: none"> ■ Percentage of health-care providers attending sessions on best practices in assessing and managing pain. 	<ul style="list-style-type: none"> ■ Self-assessed knowledge of assessment and management of pain. ■ Average self-reported awareness levels of internal and external resources and services for assessing and managing pain. ■ Average self-reported awareness and use of validated tools for assessing and managing pain. ■ Average self-reported awareness of education resources for persons with the presence, or risk of, any type of pain. 	<ul style="list-style-type: none"> ■ Evidence of kept records on people with the presence, or risk of, any type of pain consistent with recommendations. ■ People suffering complex pain are referred to resources and services in the organization or community as necessary. Evidence education and dissemination of information and resources on self-managing pain is available to people with pain or risk of, any type of pain and their family. ■ Education and support are provided to persons with pain or risk of, any type of pain and their family and caregivers. ■ Person/family satisfaction.
Person	<ul style="list-style-type: none"> ■ Percentage of people admitted to the unit/facility with the presence, or risk of, any type of pain. 	<ul style="list-style-type: none"> ■ Percentage of persons who were assessed and treated for pain. 	<ul style="list-style-type: none"> ■ Improvement in quality of life or satisfaction. ■ Percentage of persons satisfied with their level of involvement in the pain management plan. ■ Percentage of persons adhering to the pain management plan. ■ Percentage of persons with complex pain for referral and seen by pain management services.

LEVEL OF INDICATOR	STRUCTURE	PROCESS	OUTCOME
Financial costs	<ul style="list-style-type: none"> ■ Provision of adequate financial resources for the level of staffing necessary to implement guideline recommendations. 	<p>Cost related to implementing guideline:</p> <ul style="list-style-type: none"> ■ Education and access to on-the-job supports. ■ New documentation systems. ■ Support systems. ■ Cost related to resources and services supporting the assessment and management of pain (e.g., assessment tools, education materials; ongoing education of health-care teams; complex pain management specialists; pharmacological and non-pharmacological pain management interventions). 	<ul style="list-style-type: none"> ■ Cost efficiency and effectiveness of treatment. ■ Overall resource use. ■ Length of stay in health system. ■ Hospital readmission rates for inadequate pain management. ■ Self-management of pain in community.

*These process and outcome indicators have been taken from the NQuIRE® Data Dictionary for the best practice guideline *Assessment and Management of Pain* (Registered Nurses' Association of Ontario and Nursing and Healthcare Research Unit (Investén-isciii), 2012). NQuIRE® is the acronym for Nursing Quality Indicators for Reporting and Evaluation®. NQuIRE® was designed for Registered Nurses' Association of Ontario (RNAO) Best Practice Spotlight Organizations® (BPSO®) to systematically monitor the progress and evaluate the outcomes of implementing the RNAO Best Practice Guidelines in their organizations. Please visit <http://rnao.ca/bpg/initiatives/nquire> for more information.

Objective evaluation can be done through regular review of nursing order sets^G (a group of evidence-based interventions that are specific to the domain of nursing) and their effect on the person's health outcomes. Nursing order sets embedded in clinical information systems simplify this process through electronic data capture. Please visit <http://rnao.ca/bpg/initiatives/nursing-order-sets> for more information.

Process for Update and Review of the Guideline

The Registered Nurses' Association of Ontario commits to update its best practice guidelines as follows:

1. Each nursing BPG will be reviewed by a team of specialists in the topic area every five years following publication of the previous edition.
2. Best Practice Guideline (IaBPG) Centre staff regularly monitor for new systematic reviews, randomized controlled trials, and other relevant literature in the field.
3. Based on that monitoring, staff may recommend an earlier revision. Appropriate consultation with members of the original expert panel and other specialists and experts in the field will help inform the decision to review and revise the guidelines earlier than planned.
4. Three months prior to the review milestone, the staff commences planning of the review by:
 - a) Inviting specialists in the field to participate on the expert panel. It will be comprised of members from the original panel as well as other recommended specialists and experts.
 - b) Compiling feedback received and questions encountered during the implementation, including comments and experiences of Best Practice Spotlight Organizations[®] and other implementation sites regarding their experience.
 - c) Compiling new clinical practice guidelines in the field and conducting a systematic review of the evidence.
 - d) Developing a detailed work plan with target dates and deliverables for developing a new edition of the guideline.
5. New editions of guidelines will be dissemination based on established structures and processes.



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Appendix A: Glossary of Terms

Addiction: A primary, chronic, neurobiological disease with genetic, psychosocial, and environmental factors influencing its development and manifestations. It is characterized by behaviour that includes one or more of the following: impaired control over drug use, compulsive use, continued use despite harm, and craving (National Opioid Use Guideline Group, 2010).

Attribute: A quality or characteristic of the person, thing, group (Webster's New World College Dictionary®, 2010)

Best practice guideline: Systematically developed statements to assist practitioner and client decisions about appropriate health care for specific clinical (practice) circumstances (Field & Lohr, 1990).

Care bundle: Care bundles assist health-care providers to consistently deliver the best possible care for persons experiencing a specific condition or treatments. Care bundles are a small set of evidence-based practices – approximately three to five which if performed are known to improve the outcomes for persons experiencing the specific condition or treatments (Institute for Healthcare Improvement, 2011).

Characteristic: See Attributes (Webster's New World College Dictionary. Copyright © 2010)

Client: A client may be an individual (patient, person, resident, or consumer) and include family members, caregivers, substitute decision makers, groups or community (CNO, 2013b; Mental Health Commission of Canada, 2009; RNAO, 2006). In this guideline, we have used the word “person” to describe the individual with the presence, or risk of, any type of pain. See Substitute Decision Maker.

Clinical practice guideline: See best practice guideline

Consensus: A process for making policy decisions, not a scientific method for creating new knowledge. Consensus development makes the best use of available information, be that scientific data or the collective wisdom of the participants (Black et al., 1999).

Culture: Culture refers to the shared and learned values, beliefs, norms and ways of life of an individual or a group. It influences thinking, decisions and actions (CNO, 2013b).

Dependency (physical): A state of adaptation manifested by a drug class-specific withdrawal syndrome that can be produced by abrupt cessation, rapid dose reduction, decreasing blood level of the drug or administration of an antagonist (National Opioid Use Guideline Group, 2010).

Education recommendations: Statements of educational requirements and educational approaches or strategies for the introduction, implementation and sustainability of the best practice guideline.

Epidural: The injection of a therapeutic agent into the anatomical space filled with fat and blood vessels located in the spinal canal, on or outside the dura mater (tough membrane surrounding the spinal cord); synonyms are extradural and peridural (RNAO, 2007).

Evidence: Evidence is information that comes closest to the facts of a matter. The form it takes depends on context. The findings of high-quality, methodologically appropriate research, provide the most accurate evidence. As research is often incomplete and sometimes contradictory or unavailable, other kinds of information are necessary supplements to, or stand-ins for research. The evidence base for a decision involves combining the multiple forms of evidence and balancing rigor with expedience while privileging the former over the latter (Canadian Health Services Research Foundation, 2006).

Interactions: Potential interactions (adverse reactions) between prescription drugs and complementary and alternative medicines (cross-therapy) (Taylor, Walsham, Taylor, & Wong, 2006).

Interprofessional care: Inter-professional care is the provision of comprehensive health services to patients by multiple health-care providers who work collaboratively to deliver quality care within and across settings (Health Care Innovation Workgroup, 2012).

Intrathecal: The injection of a therapeutic agent into the sheath surrounding the spinal cord which is a fluid-filled area located between the innermost layer of covering (the pia mater) of the spinal cord and the middle layer of covering (the arachnoid mater). This is also referred to as the subarachnoid space (Adapted: Mosby's Dental Dictionary, 2nd edition[®], 2008).

Misbeliefs: Incorrect beliefs that are thought to be true despite evidence to the contrary and that prevent effective pain assessment and management. (Watt-Watson, 1992).

Nursing order set: A nursing order set is a group of evidence-based interventions that are specific to the domain of nursing; it is ordered independently by nurses (i.e., without a physician's signature) to standardize the care provided for a specific clinical condition (in this case, pain).

Opioid: Preferred term to use instead of “narcotic” in the context of analgesia as it refers to drugs used for pain management such as morphine, oxycodone, and codeine. Opioid includes all analgesics, natural and synthetic (National Opioid Use Guideline Group, 2010).

Organization and policy recommendations: Statements of conditions required for a practice setting that enables successful implementation of the best practice guideline. The conditions for success are largely the responsibility of the organization, although they may have implications for policy at a broader government or societal level.

Pain: An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage (IASP, 2012c).

Pain can be acute or persistent (chronic) or both at the same time.

- **Acute pain** is awareness of noxious signaling from recently damaged tissue, complicated by sensitization in the periphery and within the central nervous system. Its intensity and resolution changes with inflammatory processes, tissue healing, and movement. Unpleasant acute pain promotes survival. Acute pain is short-term pain of less than twelve weeks duration.
- **Persistent (Chronic) pain** is pain that lasts after the usual time for healing (in pain after trauma or surgery) (IASP, 2012b).

Pain is commonly classified as nociceptive or neuropathic (IASP, 2012b).

- **Nociceptive** pain arises from actual or threatened damage to non-neural tissue and due to activation of nociceptors. It occurs with a normally functioning nervous system versus abnormal functioning in neuropathic pain.
- **Neuropathic** pain is caused by a lesion or disease of the somatosensory nervous system.

Pain characteristics: Pain can be described according to specific characteristics such as; 1) body area(s) involved; 2) body system(s) affected; 3) duration; 4) frequency, 5) intensity 6) type of sensations (e.g., stabbing, throbbing); and 7) root cause (if known) (Merskey & Bogduk, 1994).

Patient-controlled analgesia (PCA): Self-administration of analgesics by a patient instructed in doing so; refers to self-dosing usually with intravenous opioid (refer to definition for opioid) administered by means of a programmable pump but also can refer to oral opioids self administered in institutions (RNAO, 2007).

Person: In this guideline, the word we use to describe people with the presence, or risk of, any type of pain.

Practice recommendations: Statements of best practice directed at the practice of health-care professionals; ideally, they are based on evidence.

Quality: The degree to which health-care services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge (World Health Organization [WHO], 2009).

Randomized controlled trial: Clinical trials involve at least one test treatment and one control treatment, concurrent enrolment and follow-up of the test-and control-treated groups, and in which the treatments to be administered are selected by a random process.

Relaxation techniques: Techniques used to relieve stress such as exercise, biofeedback, hypnosis, and meditation which are used in cognitive-behavioural therapy to teach individuals different ways of coping with stress (Adapted from Gale Encyclopedia of Medicine, 2008).

Self-report: Ability to communicate either verbally or nonverbally (blinking of eye, writing about one's pain). Self-report requires the capacity to understand the task such as the use of pain scales and the ability to communicate in some manner about the pain experienced. Self report requires cognitive skills (abstract thinking) and is influenced by context (Herr et al., 2011; Zwakhalen et al., 2006).

Stakeholder: An individual, group, or organization with a vested interest in the decisions and actions of organizations that may attempt to influence decisions and actions (Baker et al., 1999). Stakeholders include all individuals or groups who will be directly or indirectly affected by the change or solution to the problem.

Substitute decision maker: A person identified by the Ministry of Health and Long-Term Care: *Health Care Consent Act, 1996* (HCCA) who makes treatment decisions on a continuous basis for someone who is deemed mentally incapable. The HCCA provides a hierarchy of persons eligible, usually a spouse, partner or relative. A power of attorney for personal care (treatment) may not be the same individual who has power of attorney for property (CNO, 2013a; Health Canada, 2006).

Systematic review: The Cochrane Collaboration (2011) says, “a systematic review attempts to collate all empirical evidence that fits pre-specified eligibility criteria in order to answer a specific research question.” A systematic review uses systematic, explicit and reproducible methods to identify, select, and critically appraise relevant research, and to collect and analyze data from the studies that are included in the review (The Cochrane Collaboration, 2011).

Tolerance: A state of adaptation in which exposure to a drug induces changes that result in a diminution of one or more of the drug's effects over time. The occurrence of withdrawal symptoms should NOT be considered as addiction. These symptoms are a physiological response to decreased opioid drug levels. (National Opioid Use Guideline Group, 2010).

Appendix B: Guideline Development Process

The Registered Nurses' Association of Ontario has made a commitment to ensure this best-practice guideline is based on the best available evidence. In order to meet this commitment, a monitoring and revision process has been established for each guideline every five years.

For this edition of the guideline, RNAO assembled an expert panel of health-care professionals comprised of members from the previous panel as well as other recommended individuals with particular expertise in this practice area. A systematic review of the evidence took into consideration the scope of the original guideline and subsequent revision supplement (2007). However, the ultimate focus of this review was on core competencies within the scope of nursing practice required for assessing and managing pain, which was supported by four clinical questions. It captured relevant literature and guidelines published between 2007 and 2012. These are the research questions that guided the systematic review:

1. What are the most effective nursing methods of **assessment of pain** in persons?
2. What are the most effective **nursing interventions to prevent and manage pain** in persons (pharmacological; non-pharmacological, complementary/alternative)?
3. What **education** is needed for nursing students on effective pain care?
4. How do **health-care organizations support optimal pain assessment and management practices**?

The RNAO expert panel's mandate was to review the original (2002) and revision supplement (2007) in light of the new evidence, specifically to ensure the validity, appropriateness and safety of the guideline recommendations. This edition is the result of the expert panel's work to integrate the most current and best evidence to update the guideline recommendations and supporting evidence from the 2007 revision supplement.



Appendix C: Process for Systematic Review/Search Strategy

Guideline Review

The Registered Nurses' Association of Ontario guideline development team's project coordinator searched an established list of websites for guidelines and other relevant content published between 2006 and 2012. This list was compiled based on knowledge of evidence-based practice websites and recommendations from the literature. Detailed information about the search strategy for existing guidelines, including the list of websites searched and inclusion criteria, is available online at www.RNAO.ca. Guidelines were also identified by members of the expert panel.

Members of the expert panel critically appraised 16 international guidelines using the *Appraisal of Guidelines for Research and Evaluation Instrument II* (Brouwers et al., 2010). From this review, the following eleven guidelines were selected to inform the review process:

American Medical Directors Association (AMDA). (2012). *Pain management in the long-term care setting*. Columbia, MD: AMDA.

Cancer Care Ontario. (2008). *Practice Evidence-Based Series #16-2. Cancer-related pain management: A report of evidence-based recommendations to guide practice*. Cancer Care Ontario (CCO).

Ontario Cancer Symptom Management Collaborative (OCSMC). (2010). *Cancer Care Ontario's Symptom Management Guides-to-Practice: Pain*. Cancer Care Ontario (CCO). Retrieved from <https://www.cancercare.on.ca/toolbox/symptools/>.

Guideline Development Group (GDG). (2008). *The recognition and assessment of acute pain in children*. Royal College of Nursing, London, UK.

Registered Nurses' Association of Ontario (RNAO) (2007). *Assessment and management of pain*. Toronto (ON): Registered Nurses' Association of Ontario (RNAO).

Royal College of Nursing. (2009). *The recognition and assessment of acute pain in children*. Royal College of Nursing, London, UK.

Royal College of Physicians, British Geriatrics Society and British Pain Society. (2007). *The assessment of pain in older people: national guidelines*. Concise guidance to good practice series, No 8. London: RCP.

Scottish Intercollegiate Guidelines Network (SIGN). (2008). *Control of pain in adults with cancer. A national clinical guideline. No., 106*. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network (SIGN).

Spence, K., Henderson-Smart, D., New, K., Evans, C., Whitelaw, J., Woolnough, R. and Australian and New Zealand Neonatal Network. (2010). *Evidence-based clinical practice guideline for management of newborn pain*. *Journal of Paediatrics and Child Health*, 46, 184–192.

Symptom Management Group (SMG). (2010). *Cancer Care Ontario's Symptom management guides-to-practice: Pain*. Cancer Care Ontario (CCO).

Taddio, A., Appleton, M., Bortolussi, R., Chambers, C., Dubey, V., Halperin, S.,...Shah, V. (2010). Reducing the pain of childhood vaccination: An evidence-based clinical practice guideline. *Canadian Medical Association Journal*, 182(18), E843-E855.

Systematic Review

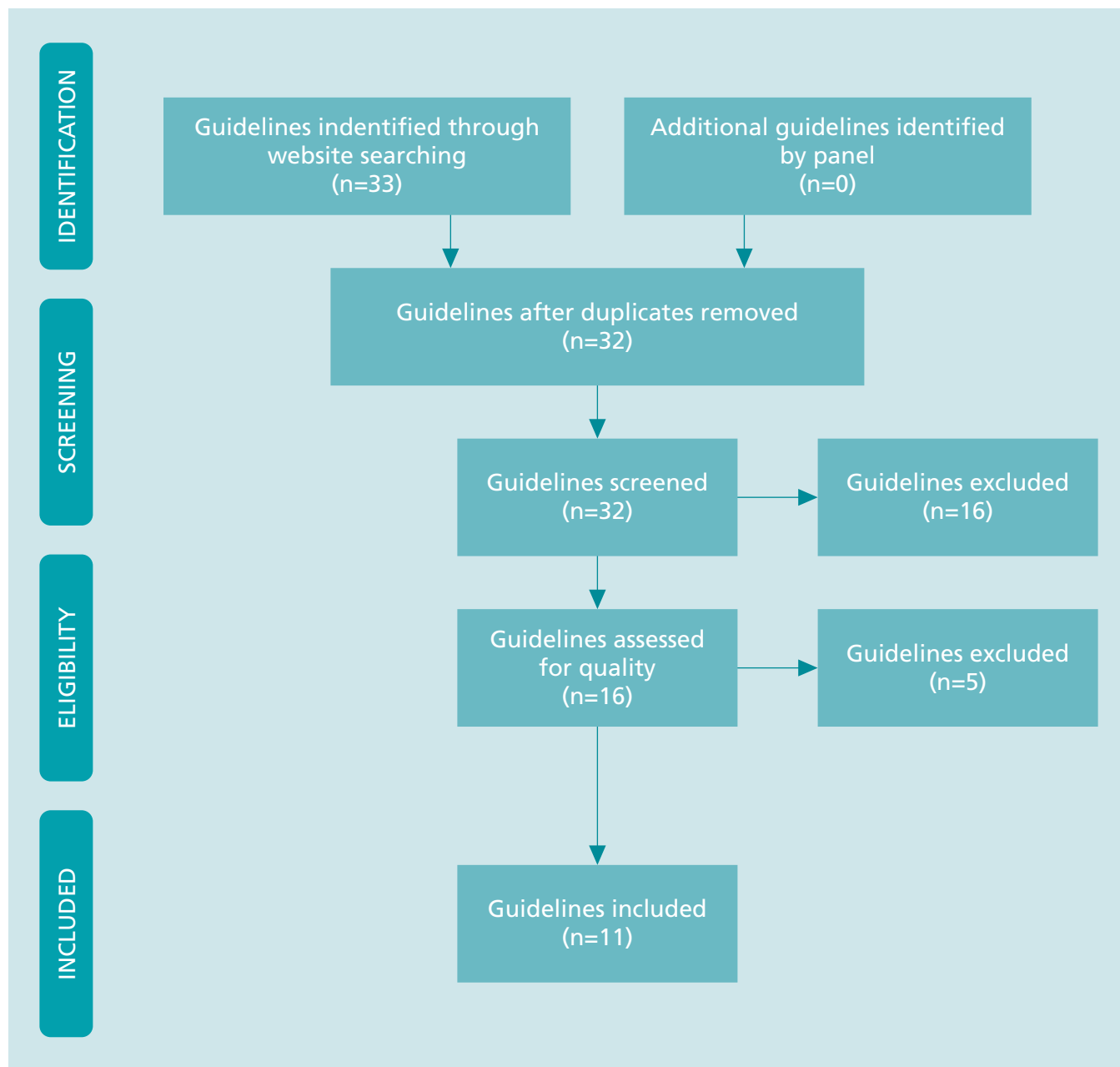
Concurrent with the review of existing guidelines, a search for recent literature relevant to the scope of the guideline was conducted with guidance from the Registered Nurses' Association of Ontario's chair of the expert panel. The systematic literature search was conducted by a health sciences librarian. The search, limited to English-language articles published between 2006 and 2012, was applied to CINAHL, Embase, DARE, Medline, Cochrane Central Register of Controlled Trials and Cochrane Database of Systematic Reviews, ERIC, Joanna Briggs, and PsycINFO databases. The initial search for relevant studies pertaining to questions 1 and 2 returned 11,768 articles. Due to the volume of research, the inclusion criteria for study methodology was changed and limited to meta-analysis, systematic reviews, integrative reviews, randomized controlled trials and qualitative evidence syntheses. Detailed information about the search strategy for the systematic review, including the inclusion and exclusion criteria as well as search terms, is available online at www.RNAO.ca. Two research associates (master's prepared nurses) independently assessed the eligibility of studies according to established inclusion and exclusion criteria. The Registered Nurses' Association of Ontario Best Practice Guideline program manager working with the expert panel, resolved disagreements.

Quality appraisal scores for 12 papers (a random sample of 14% of articles eligible for data extraction and quality appraisal) were independently assessed by the Registered Nurses' Association of Ontario Best Practice Guideline research associates. Acceptable inter-rater agreement (kappa statistic, $K=0.63$) justified proceeding with quality appraisal and data extraction by dividing the remaining studies equally between the two research associates (Fleiss, Levin, & Paik, 2003). A final summary of literature findings was completed. The comprehensive data tables and summary were provided to all panel members. In September 2012, the Registered Nurses' Association of Ontario expert panel convened to revise and achieve consensus on guideline recommendations and discussion of evidence.

A review of the most recent literature and relevant guidelines published between 2006 and 2012 resulted in a complete update of existing guideline recommendations. This third edition of the guideline is a culmination of the original work, supplement and findings from the literature. The following flow diagrams of the review process for guidelines and articles are presented according to PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (Mohler, Liberati, Tetzlaff, Altman & The Prisma Group, 2009).

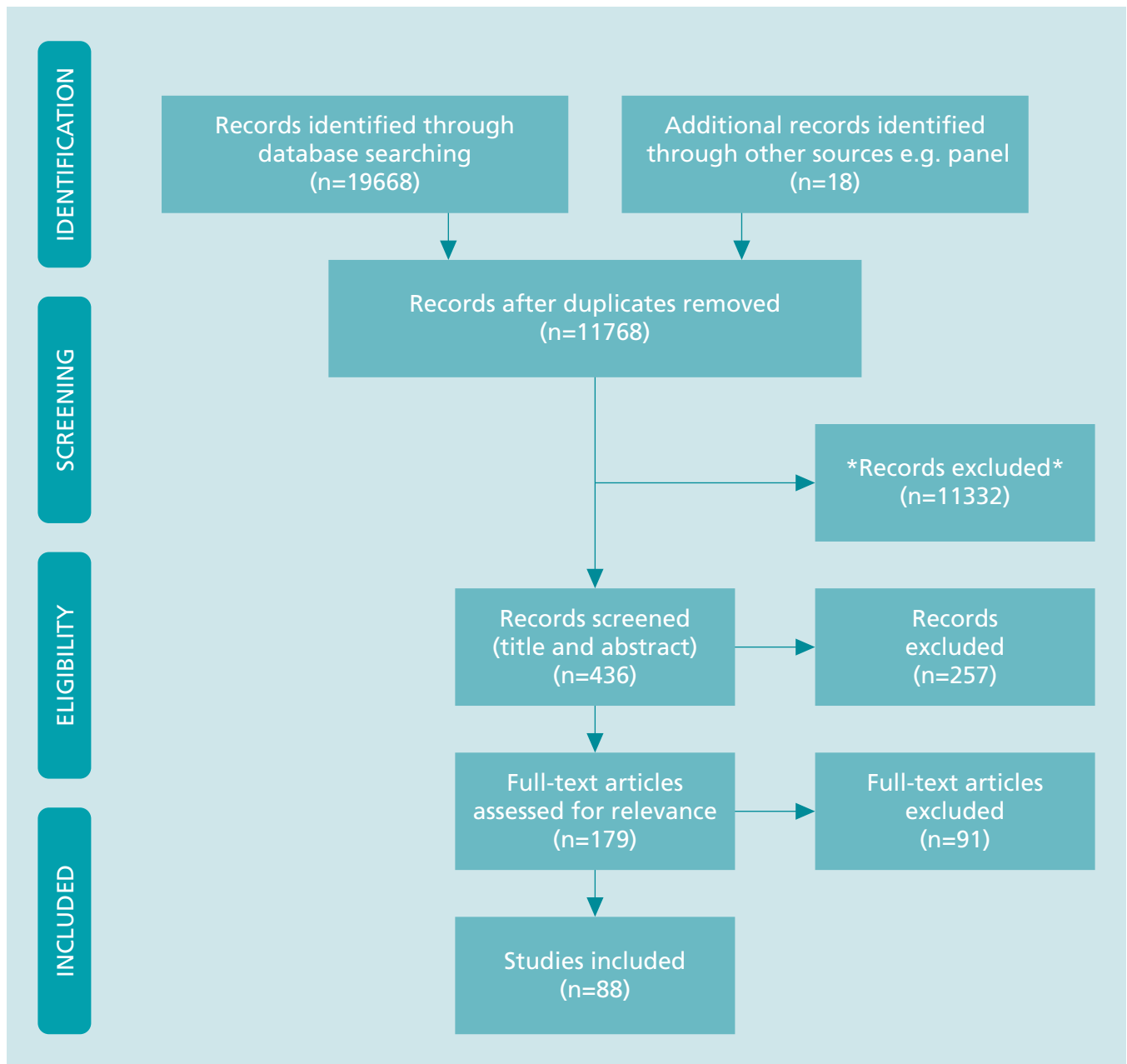
A complete Bibliography of all full text articles screened for inclusion is available at <http://rnao.ca/bpg/guidelines/assessment-and-management-pain>

Guideline Review Process Flow Diagram



Flow diagram adapted from D. Moher, A. Liberati, J. Tetzlaff, D. G. Altman, & The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *BMJ* 339, b2535, doi: 10.1136/bmj.b2535

Article Review Process Flow Diagram



Records excluded: not within scope and due to volume of studies.

Flow diagram adapted from D. Moher, A. Liberati, J. Tetzlaff, D. G. Altman, & The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *BMJ* 339, b2535, doi: 10.1136/bmj.b2535

Appendix D: Pain Assessment and Management Resources – List of Websites

LIST OF WEBSITES ON PAIN ASSESSMENT OR MANAGEMENT		
About.com	<p>Covers Health topics such as:</p> <ul style="list-style-type: none"> ■ Chronic Pain <ul style="list-style-type: none"> ● Assessment e.g., FLACC Scale ● Diagnosis and Management ● Treatment ● Coping 	http://pain.about.com/od/testingdiagnosis/ig/pain-scales/Flacc-Scale.htm
Accreditation Canada's Qmentum Program	<ul style="list-style-type: none"> ■ Pain Standards 	http://www.canadianpainsociety.ca/pdf/Standards-Statement-CCHSA.pdf
The Association of Paediatric Anaesthetists of Great Britain and Ireland	<p>Guidelines:</p> <ul style="list-style-type: none"> ■ Good Practice in Postoperative and Procedural Pain Management, 2nd edition. 	http://www.apagbi.org.uk/
Australian and New Zealand College of Anaesthetists and Faculty of Pain Medicine	Professional and educational documents e.g. Acute Pain Management: Scientific Evidence Guidelines	http://www.fpm.anzca.edu.au/

LIST OF WEBSITES ON PAIN ASSESSMENT OR MANAGEMENT ...con't

<p>International Association for the Study of Pain (IASP)</p>	<p>Site brings together scientists, clinicians, health care providers, and policy makers to stimulate and support the study of pain and to translate that knowledge into improved pain relief worldwide.</p> <ul style="list-style-type: none"> ■ Research dissemination on assessment and management of pain (e.g., updates on assessment tools) ■ Clinical Updates – Information on variety of pain topics and types of pain 	<p>http://www.iasp-pain.org/AM/Template.cfm?Section=About_IASP3&Template=/CM/HTMLDisplay.cfm&ContentID=1608</p>
<p>The British Pain Society</p>	<p>Guidelines for Pain Management Programmes for adults</p>	<p>http://www.britishpainsociety.org/book_pmp_main.pdf</p>
	<p>Guidance on: The assessment of pain in older people</p>	<p>http://www.bgs.org.uk/Publications/Publication%20Downloads/Sep2007PainAssessment.pdf</p>
<p>The Canadian Pain Society</p>	<p>Resources:</p> <ul style="list-style-type: none"> ■ Accreditation Canada Manual – Pain Standards ■ Pain Fact Sheets ■ Pain teaching Senarios ■ Website Links <p>Other:</p> <ul style="list-style-type: none"> ■ French/English versions ■ Journals ■ Research Funding Opportunities 	<p>http://www.canadianpainsociety.ca/en/about_policy.html</p>
<p>Care Search</p>	<p>Palliative Care Knowledge Network:</p> <ul style="list-style-type: none"> ■ Clinical Evidence ■ Patient Management ■ Pain Assessment Tools 	<p>http://www.caresearch.com.au/caresearch/ClinicalPractice/Physical/Pain/AssessmentTools/tabid/748/Default.aspx</p>

LIST OF WEBSITES ON PAIN ASSESSMENT OR MANAGEMENT ...con't

<p>College of Physicians of Canada</p>	<p>College of Family Physicians of Canada (CFPC) resources for chronic non cancer pain:</p> <ul style="list-style-type: none"> ■ material ■ web resources, ■ papers and clinical practice guidelines for physicians who have a special interest in Chronic Non Cancer Pain 	<p>http://www.cfpc.ca/Chronic Non Cancer Pain Resources/#sthash.pmrNPaOl.dpuf</p>
<p>McMaster University-National Pain Centre</p>	<p>Guidelines</p> <ul style="list-style-type: none"> ■ Canadian Guideline for Safe and Effective Use of Opioids for Chronic Non-Cancer Pain <ul style="list-style-type: none"> ● Appendix B-2: Opioid Risk Tool ■ Management of Primary Headache in Adults ■ Evidence-Informed Primary Care Management of Low Back Pain ■ Pharmacological management of chronic neuropathic pain – Consensus statement and guidelines from the Canadian Pain Society ■ Evidence-Based Recommendations for Medical Management of Chronic Non-Malignant Pain (CPSO 2000) ■ Reference Guide for Clinicians for the Medical Management of Chronic Non-Malignant Pain (CPSO 2000) ■ <i>Mobile Applications</i> 	<p>http://nationalpaincentre.mcmaster.ca/index.html</p> <p>Opioid Risk Tool:</p> <p>http://nationalpaincentre.mcmaster.ca/opioid/cgop_b_app_b02.html</p>
<p>Pain Treatment Topics</p>	<p>Noncommercial resource for healthcare professionals & their patients which provides open access to:</p> <ul style="list-style-type: none"> ■ clinical news ■ information, research, and education on evidence-based pain-management practices ■ Pain & Disability Assessment Tools 	<p>http://pain-topics.org/index.php</p> <p>Pain Assessment Tools:</p> <p>http://pain-topics.org/clinical_concepts/assess.php</p>

LIST OF WEBSITES ON PAIN ASSESSMENT OR MANAGEMENT ...con't

RNAO Best Practices Resources Toolkit- Long Term Care	<p>Toolkit for Pain Assessment and Management</p> <ul style="list-style-type: none"> ■ Pain Clinical Concepts ■ Opioid and Non Opioid Treatment ■ Education – Healthcare provider CME; Client ■ Research ■ Client Resources 	http://ltctoolkit.rnao.ca/resources/pain
University of Toronto	<p>Pain Resources Guide</p> <ul style="list-style-type: none"> ■ Assessment and Management ■ Tools ■ Education and Reading Resources 	http://guides.library.utoronto.ca/content.php?pid=278354&sid=2292934
World Health Organization (WHO)	Guidelines	http://www.who.int/publications/guidelines/en/index.html

PALLIATIVE CARE

Frasier Health Hospice	Guidelines: Palliative Care Program Symptom Guideline	http://www.northernhealth.ca/Portals/0/Your Health/HCC/Hospice%20Palliative%20Care/NH%20HPC%20Resources/Symptom%20Guidelines%202nd%20Edition.pdf
City of Hope Pain & Palliative Care Resource		http://prc.coh.org/pain_assessment.asp

CANCER CARE

Cancer Care Ontario	Toolbox: Guidelines	https://www.cancercare.on.ca/
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LIST OF WEBSITES ON PAIN ASSESSMENT OR MANAGEMENT ...con't

<p>Frasier Health Hospice</p>	<p>Guidelines: Palliative Care Program Symptom Guideline</p>	<p>http://www.northernhealth.ca/Portals/0/Your_Health/HCC/Hospice%20Palliative%20Care/NH%20HPC%20Resources/Symptom%20Guidelines%202nd%20Edition.pdf</p>
<p>Sick Kids Hospital</p>	<p>Pain Education Pamphlets:</p> <ul style="list-style-type: none"> ■ Pain After an Operation: Taking Care of Your Child’s Pain at Home ■ Pain At Home: Taking Care of Your Child ■ Pain Diary: Pain After an Operation ■ Pain Medicines ■ Pain Relief: Comfort Kit ■ Pain: How to Talk to Kids About Their Pain ■ Pain-Free Injections 	<p>http://www.aboutkidshealth.ca/En/HealthAZ/Pages/default.aspx?name=p</p>
	<p>Pain Resource Centre</p>	<p>http://www.aboutkidshealth.ca/En/ResourceCentres/Pain/Pages/default.aspx</p>
	<p>Pain Assessment tools:</p> <ul style="list-style-type: none"> ■ Downloadable pain assessment tools for parents to assess pain in their non-communicating children. <ul style="list-style-type: none"> ● Parents’ Postoperative Pain Measure (non-communicating) checklist [PDF] ● Parents Pain Measure (non-communicating) checklist (PDF) ● Pain Diary 	<p>http://www.aboutkidshealth.ca/En/ResourceCentres/Pain/AtHome/PainAssessment/Pages/Pain-Assessment-Tool.aspx</p>

Appendix E: Validated Self-Report Tools for Children, Adolescents and Adults

UNIDIMENSIONAL TOOLS		
Measure	Indicator/Components	Considerations
Faces Pain Scale-Revised (FPS-R)	<ul style="list-style-type: none"> ■ The Faces Pain Scale-Revised (FPS-R) was altered so that the Faces Pain Scale (FPS) was compatible in scoring with other self-rating and behavioural scales ■ Six gender-neutral faces ■ Faces ranged from no pain to as much pain as is possible ■ Scored 0-10 	<ul style="list-style-type: none"> ■ Intended for use in children 5-12 years old but has been used in children aged 4-18 years ■ Well established evidence of reliability, validity and ability to detect change ■ High feasibility (quick and easy to use) ■ Translated into ≥ 35 languages ■ Disadvantages: limited evidence regarding interpretability of scores and mixed evidence about the acceptability of the scale with children
Numeric Rating Score (NRS)	<ul style="list-style-type: none"> ■ Asks persons to rate their pain from 0 to 10 ■ Scored 0-10 with the anchors of 0 being 'no pain' and 10 being 'pain as bad as it can be' 	<ul style="list-style-type: none"> ■ Used in adults, older adults, and adolescents and children over age 8. ■ Well established evidence of reliability, validity, and ability to detect change ■ No equipment is needed to administer this measure ■ High feasibility (quick and easy to use)
Verbal Rating Score (VRS)	<ul style="list-style-type: none"> ■ A list of adjectives that describe different levels of pain intensity ■ 5 point VRS includes the descriptors of: no pain, mild, moderate, severe, very severe 	<ul style="list-style-type: none"> ■ Used with adults to explain levels of pain intensity (mild [1-3], moderate [4-6], severe [7-10]) ■ Established validity ■ High feasibility (quick and easy to use) ■ Similar to the Present Pain Intensity that is part of the McGill Pain Questionnaire –Short Form ■ Disadvantages: if a long list, the person will need to be familiar with the entire list before they can select the one that describes their pain

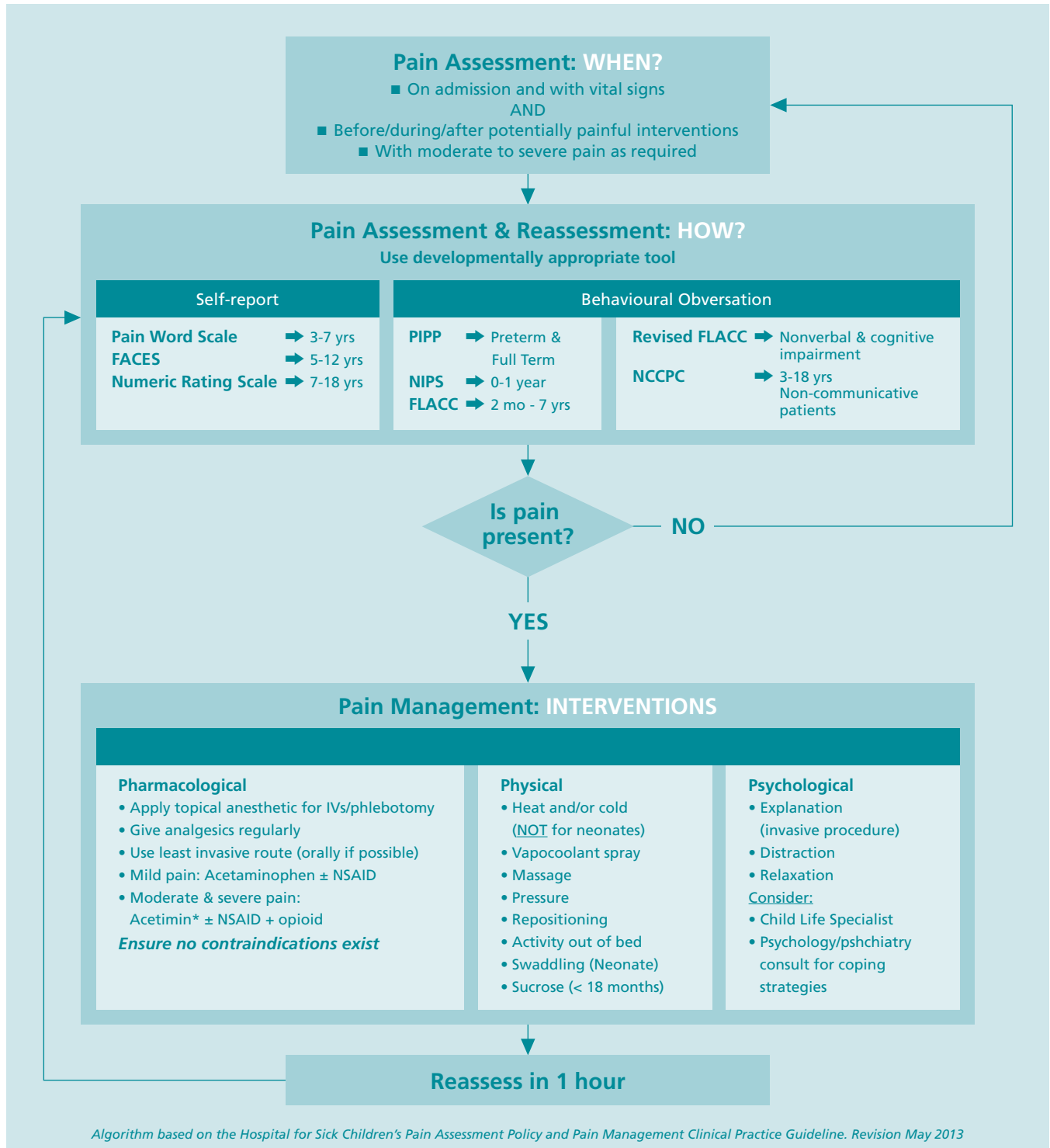
MULTIDIMENSIONAL TOOLS

Measure	Indicators/Components	Considerations
<p>Brief Pain Inventory, Short Form (BPI-SF)</p>	<ul style="list-style-type: none"> ■ Assessment Areas: Severity of pain, impact of pain on daily function, location of pain, pain medications and amount of pain relief in the past 24 hours or the past week ■ Gender neutral body outline to describe location of pain ■ 4-items assessing pain intensity. Measured by using a 0-10 NRS anchored with 0=no pain and 10=pain as bad as you can imagine worst pain in the last 24 hours; least pain in the last 24 hours; pain on average; how much pain you have right now ■ 2-items assessing pain treatment and effectiveness ■ 7-questions related to pain related interference. Measured using a 0-10 NRS anchored with 0=no interference and 10=completely interferes. ■ Interference with: general activities; mood; walking ability; normal work; relations with other people; sleep; enjoyment of life 	<ul style="list-style-type: none"> ■ Valid and reliable instrument that was developed to provide information on pain intensity and the degree to which pain interferes with activities in adult persons with cancer ■ Documented in validation studies of cancer and non-cancer pain, including surgical persons with pain from chronic diseases or conditions such as cancer, osteoarthritis and low back pain, or with pain from acute conditions such as postoperative pain ■ Responds to both behavioural and pharmacological pain management interventions ■ Advantages: can be self-administered or used in an interview format, takes 5 minutes to complete, validated in more than three dozen languages ■ Free of charge for non-funded academic research and individual clinical practice ■ Website: http://www.mdanderson.org/education-and-research/departments-programs-and-labs/departments-and-divisions/symptom-research/symptom-assessment-tools/brief-pain-inventory.html

MULTIDIMENSIONAL TOOLS ...con't		
Measure	Indicators/Components	Considerations
Pediatric Pain Questionnaire (PPQ)	<p>Pain intensity measured using:</p> <ul style="list-style-type: none"> ■ 0-10 cm VAS anchored with happy and sad faces for present and worst pain ■ Gender neutral body outline to describe location of pain (number of body areas marked) ■ Pain intensity (choosing four of eight coloured crayons to represent various levels of pain intensity from none, mild, moderate and severe) ■ 46 word descriptors to assess the sensory, affective and evaluative qualities of pain 	<ul style="list-style-type: none"> ■ Originally developed for children and adolescents with recurrent and persistent pain (juvenile arthritis) ■ Intended for use in children aged 5-16 years; used in children 4-18 years ■ Child, adolescent and parent versions ■ Well established evidence of reliability and validity and some evidence of ability to detect change ■ Advantages: minimal training and takes 10-15 minutes to complete ■ Children younger than 7 years will usually need to be read the instructions to complete the VAS and body outline ■ Free for unfunded research ■ Website: www.pedsgl.org

(Cleeland & Ryan, 1994; Hicks, von Baeyer, Spafford, van Korlaar, & Goodenough, 2001; Jensen & Karoly, 2001; Jensen, Karoly, & Huger, 1987; Stinson, Yamada, Kavanagh, Gill, & Stevens, 2006; Tomlinson, von Baeyer, Stinson, & Sung, 2010; Varni, Thompson, & Hanson, 1987)

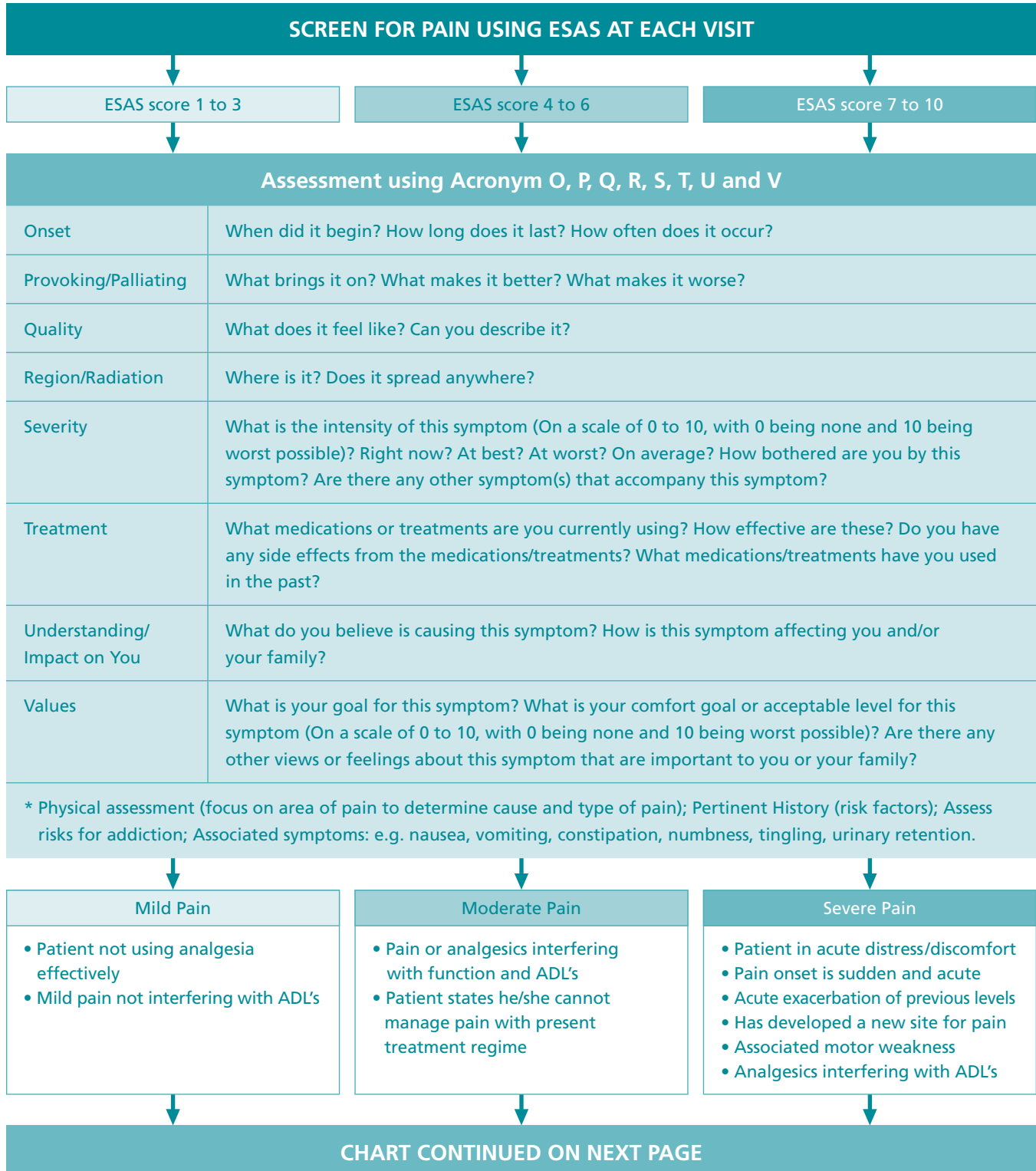
Appendix F: Example: Algorithm for Assessing Pain in Hospitalized Children



Note. From “The Hospital for Sick Children: Pain Management Clinical Practice Guideline, Policies and Procedures Database,” by The Hospital for Sick Children, Pain Matters Working Group (Leads: F. Campbell, & L. Palozzi). Copyright 2013 by The Hospital for Sick Children. Reprinted with permission.

Appendix G: Example: Algorithm for Assessing Pain in Adults with Cancer (Source: Cancer Care Ontario)

ALGORITHM: Pain in Adults with Cancer: Screening an Assessment



Interventions for all patients, as appropriate

NON-PHARMACOLOGICAL

- Psycho-social-spiritual interventions (patient education, counseling, recreational activities, relaxation therapy imagery, social interaction, spiritual counselling).
- Other therapies (physiotherapy, occupational therapy, massage, aromatherapy, music therapy, acupuncture, transcutaneous electrical nerve stimulation, reflexology, Reiki, hypnotherapy).
- Other interventions such as radiation therapy, vertebroplasty, surgery and anesthetic interventions should be considered in patients with difficult to control pain.

Patient Education

- Taking routine and breakthrough analgesics, adverse effect management, non-pharmacologic measures that can be used in conjunction with pharmacologic treatment.

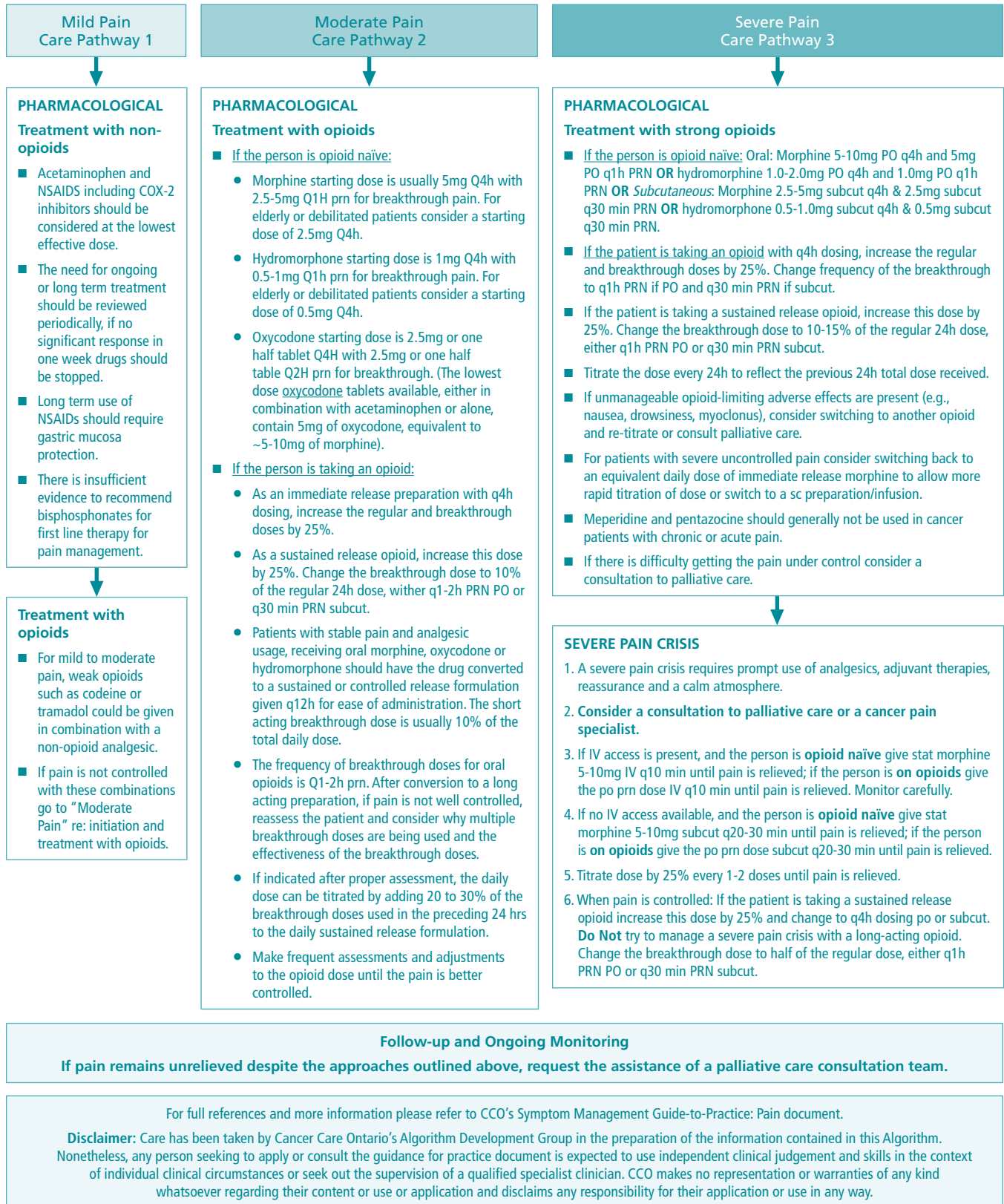
PHARMACOLOGICAL

- The severity of pain determines the strength of analgesics required specified by the World Health Organization (WHO) Analgesic Ladder.
- The type and cause of the pain will influence the choice of adjuvant analgesic (e.g., nociceptive, neuropathic, bone metastases).
- In the presence of reduced kidney function all opioids should be used with caution and at reduced doses and/or frequency.
- Fentanyl, methadone and oxycodone are the safest opioids of choice in patients with chronic kidney disease.
- Methadone requires an experienced prescriber, check for significant drug interactions before prescribing any drug to a patient on methadone.
- When using a transmucosal fentanyl formulation for breakthrough pain the effective dose should be found by upward titration independent of the regular opioid dose.
- For those with stabilized severe pain and on a stable opioid dose or those with swallowing difficulties or intractable nausea and vomiting, fentanyl transdermal patches may be appropriate, provided the pain is stable.
- Classify the pain – nociceptive, neuropathic or mixed?
- The type and cause of the pain will influence the choice of adjuvant analgesic (e.g., nociceptive, neuropathic, bone metastases).
- The choice of antidepressant or anticonvulsant should be based on concomitant disease, drug therapy and drug side effects and interactions experienced.
- There is insufficient evidence to support a recommendation for topical opioids.
- There is insufficient evidence to support first or second line therapy of cancer pain with cannabinoids but they may have a role in refractory pain, particularly refractory neuropathic pain.
- Transdermal fentanyl should not be used in opioid-naïve patients.
- Specialist palliative care advice should be considered for the appropriate choice, dosage and route of opioid in patients with reduced kidney function or in patients with difficult to control pain.

ADVERSE EFFECTS OF OPIOIDS

- Many opioid-naïve patients will develop nausea or vomiting when starting opioids, tolerance usually occurs within 5-10 days. Patients commencing an opioid for moderate to severe pain should have access to an antiemetic to be taken if required.
- The majority of patients taking opioids for moderate to severe pain will develop constipation. Little or no tolerance develops. The commonest prophylactic treatment for preventing opioid-induced constipation is a combination of stimulant (senna or bisocodyl) and osmotic laxatives (lactulose or PEG 3350).

Pain in Adults with Cancer: Care Map



Note. These resources have been provided by Cancer Care Ontario (CCO) through the CCO website. Reprinted with permission.

Appendix H: Example: Care Bundle for the Assessment and Management of Pain in the Critically Ill Adult

	PAIN	AGITATION	DELIRIUM
ASSESS	<p>Assess pain ≥4x/shift & prn</p> <p>Preferred pain assessment tools:</p> <ul style="list-style-type: none"> ■ Patient able to self-report → NRS (0-10) ■ Unable to self-report → BPS (3-12) or CPOT (0-8) <p>Patient is in significant pain if NRS ≥ 4, BPS > 5, or CPOT > 2</p>	<p>Assess agitation, sedation ≥4x/shift & prn</p> <p>Preferred sedation assessment tools:</p> <ul style="list-style-type: none"> ■ RASS (-5 to +4) or SAS (1 to 7) ■ NMB → suggest using brain function monitoring <p>Depth of agitation, sedation defined as:</p> <ul style="list-style-type: none"> ■ <i>agitated</i> if RASS = +1 to +4, or SAS = 5 to 7 ■ <i>awake and calm</i> if RASS = 0, or SAS = 4 ■ <i>lightly sedated</i> if RASS = -1 to -2, or SAS = 3 ■ <i>deeply sedated</i> if RASS = -3 to -5, or SAS = 1 to 2 	<p>Assess delirium Q shift & prn</p> <p>Preferred delirium assessment tools:</p> <ul style="list-style-type: none"> ■ CAM-ICU (+ or -) ■ ICDSC (0 to 8) <p>Delirium present if:</p> <ul style="list-style-type: none"> ■ CAM-ICU is positive ■ ICDSC ≥ 4
TREAT	<p>Treat pain within 30" then reassess:</p> <ul style="list-style-type: none"> ■ Non-pharmacologic treatment – relaxation therapy ■ Pharmacologic treatment: <ul style="list-style-type: none"> ● Non-neuropathic pain → IV opioids +/- non-opioid analgesics ● Neuropathic pain → gabapentin or carbamazepine, + IV opioids ● S/p AAA repair, rib fractures → thoracic epidural 	<p>Targeted sedation or DSI (<i>Goal: patient purposely follows commands without agitation</i>):</p> <p>RASS = -2 – 0, SAS = 3 – 4</p> <ul style="list-style-type: none"> ■ If <i>under sedated</i> (RASS >0, SAS >4) assess/ treat pain → treat w/sedatives prn (non-benzodiazepines preferred, unless ETOH or benzodiazepine withdrawal is suspected) ■ If <i>over sedated</i> (RASS <-2, SAS <3) hold sedatives until at target, then start at 50% of previous dose 	<ul style="list-style-type: none"> ■ Treat pain as needed ■ Reorient patients; familiarize surroundings; use patient's eyeglasses, hearing aids if needed ■ Pharmacologic treatment of delirium: <ul style="list-style-type: none"> ● Avoid benzodiazepines unless ETOH or benzodiazepine withdrawal is suspected ● Avoid rivastigmine ● Avoid antipsychotics if ↑ risk of Torsades de pointes
PREVENT	<ul style="list-style-type: none"> ■ Administer pro-procedural analgesia and/or non-pharmacologic interventions (e.g., relaxation therapy) ■ Treat pain first, then sedate 	<ul style="list-style-type: none"> ■ Consider daily SBT, early mobility and exercise when patients are at goal sedation level, unless contraindicated ■ EEG monitoring if: <ul style="list-style-type: none"> ● at risk for seizures ● burst suppression therapy is indicated for ↑ ICP 	<ul style="list-style-type: none"> ■ Identify delirium risk factors: dementia, HTN, ETOH abuse, high severity of illness, coma, benzodiazepine administration ■ Avoid benzodiazepine use in those at ↑ first for delirium ■ Mobilize and exercise patients early ■ Promote sleep (control light, noise; cluster patient care activities; decrease nocturnal stimuli) ■ Restart baseline psychiatric meds, if indicated

Abbreviations in Care Bundle

AAA	– Abdominal Aortic Aneurysm	ICDSC	– Intensive Care Delirium Screening Checklist
BPS	– Behavioral Pain Scale	HTN	– Hypertension
CAM-ICU	– Confusion Assessment Method – Intensive Care Unit	NMB	– Neuromuscular Blockers
CPOT	– Critical-Care Pain Observation Tool	NRS	– Numerical Rating Scale
ETOH	– Alcohol	RASS	– Richmond Agitation-Sedation Scale
		SAS	– Sedation Agitation Scale

Note. From “Clinical Practice Guidelines for the Management of Pain, Agitation, and Delirium in Adult Patients in the Intensive Care Unit,” by J. Barr, G. Fraser, K. Puntillo, E. Wesley Ely, C. Gélinas, J. F. Dasta, et al., 2013, *Critical Care Medicine*, 41(1), 263-306. Copyright (2013) by Wolters Kluwer Health. Reprinted with permission. Promotional and commercial use of the material in print, digital or mobile device format is prohibited without the permission from the publisher Lippincott Williams & Wilkins. Please contact journalpermissions@lww.com for further information.

Appendix I: Example: Validated Pain Assessment Tools for Neonates

VALIDATED PAIN ASSESSMENT TOOLS FOR NEONATES		
<i>*Note: Screening tools for the presence/absence of pain but NOT pain intensity*</i>		
MEASURE	INDICATORS/ COMPONENTS	CONSIDERATIONS
*Neonatal Infant Pain Scale (NIPS)	Facial expression, cry, breathing patterns, arms, legs, state of arousal	<ul style="list-style-type: none"> ■ Preterm and term infants ■ Procedural pain measure ■ Operational definitions for indicators are provided ■ Each indicator is scored on a two-point (0,1) or three-point (0,1,2) scale at one-minute intervals, before, during, and following a procedure ■ Evidence of reliability and validity ■ Hard to remember (<i>limited</i> feasibility for use) ■ Cannot be used in intubated or paralyzed persons
*Premature Infant Pain Profile (PIPP)	Gestational age, behavioural state, heart rate and oxygen saturation, brow bulge, eye squeeze, and nasolabial furrow	<ul style="list-style-type: none"> ■ Preterm and term infants (28-40 weeks gestation) ■ Initially developed for procedural pain, requires further evaluation with very low birth weight neonates and with non-acute and post-surgical pain populations ■ Includes contextual indicators (gestational age and behavioural state) ■ Each indicator is evaluated on a four-point scale (0,1,2,3) for a possible total score of 18 – 21 based on the gestational age of the infant; ■ Total score of 6 or less generally indicates minimal or no pain, while scores greater than 12 indicate moderate to severe pain ■ Most rigorously evaluated tool; evidence of reliability, validity and ability to detect change Further research required to establish feasibility and clinical utility ■ Pain assessments take 1 minute (<i>early evidence of good clinical feasibility</i>) ■ A revised version of the PIPP is currently undergoing testing that includes changes to scoring of individual items and total score

(Duhn & Medves, 2004; Lawrence et al., 1993; Stevens, Johnston, Petryshen, & Taddio, 1996; Stevens, Johnston, Taddio, Gibbins, & Yamada, 2010)

Appendix J: Example: Validated Behavioural Pain Assessment Tools for Children

VALIDATED BEHAVIORAL PAIN ASSESSMENT TOOLS FOR CHILDREN		
<i>*Note: Screening tools for the presence/absence of pain but NOT pain intensity*</i>		
MEASURE	INDICATORS/ COMPONENTS	CONSIDERATIONS
*Revised FLACC (r-FLACC)	Facial expression, leg movement, activity, cry and consolability	<ul style="list-style-type: none"> ■ Initially developed as FLACC and intended for use in children aged 2 months to 8 years but has been used in children aged 0-18 years ■ Later amended to r-FLACC, to include pain behaviours common to persons with cognitive impairments has been used in cognitively impaired children aged 4-21 years ■ Validated for procedural and postoperative pain ■ Each category is scored on a 0-2 scale, which results in a total score between 0 and 10 ■ Well established evidence of reliability and validity; however inconsistent ability to detect change demonstrated with FLACC ■ Simple to use, score and interpret. ■ High feasibility ■ Cannot be used in paralyzed persons. Some preliminary data suggests it may be useful with persons who are ventilated Important to note that consolability requires (a) an attempt to console, and (b) a subjective rating of response to that intervention, which complicates the scoring

(Malviya, Voepel-Lewis, Burke, Merkel, & Tait, 2006; Merkel, Voepel-Lewis, Shayevitz, & Malviya, 1997; von Baeyer & Spagrud, 2007; von Baeyer & Spagrud; Voepel-Lewis et al., 2008; van Herk, van Dijk, Baar, Tibboel, & de Wit, 2007; Voepel-Lewis, Zanotti, Dammeyer, & Merkel, 2010)

VALIDATED BEHAVIORAL PAIN ASSESSMENT TOOLS FOR CHILDREN ...con't

Note: Screening tools for the presence/absence of pain but NOT pain intensity

MEASURE	INDICATORS/ COMPONENTS	CONSIDERATIONS
<p>*Non-communicating Children's Pain Checklist – Revised (NCCPC-R)</p>	<p>Vocal, Social, Facial expressions, activity, body and limbs, physiological and Eating/ Sleeping</p>	<ul style="list-style-type: none"> ■ Designed for children aged 3-18 years who are unable to speak due to cognitive impairments or disabilities. ■ Designed to be used without training, but parents and caregivers. ■ Intended for use in any setting. ■ Completion of the score is based on a 2-hour n observation period of the child. ■ For post-operative pain – the Non-communicating Children's Pain Checklist – Postoperative Version should be used.

(Breau, McGrath, Camfield, & Finley, 2002)



Appendix K: Example: Validated Behavioural Pain Assessment Tool for Adults

OBSERVATIONAL BEHAVIOURAL TOOLS		
<i>*Note: Screening tools for the presence/absence of pain but NOT pain intensity*</i>		
MEASURE	INDICATORS/ COMPONENTS	CONSIDERATIONS
*Checklist of non-verbal indicators	Six behaviours that are scored at rest and on activity including: verbal complaints (non-verbal: moans, groans, cries, gasps); facial grimaces/winces (furrowed brow, clenched teeth); bracing (clutching or holding onto side rails, bed, or affected area during movement); restlessness (shifting of position [constant or intermittent], inability to keep still); rubbing (massaging affected area); vocal complaints (words expressing discomfort or pain – “that hurts”, “ouch”, cursing during movement, etc.).	<ul style="list-style-type: none"> ■ Designed to evaluate pain behaviours in cognitively impaired adults post-operatively ■ The presence of a pain indicator is scored as 1, while the absence of the indicator is scored as 0 ■ There is no specific cut-off score to indicate pain severity; however the presence of any of the behavioural indicators may be indicative of pain, and requires further assessment, intervention and monitoring by the clinician. ■ Website: ■ http://www.healthcare.uiowa.edu/igec/tools/pain/nonverbalPain.pdf or ■ http://ltctoolkit.rnao-dev.org/resources/assessment-tools/pain-checklist-nonverbal-pain-indicators-cnpi

(Feldt, 2000)

Appendix L: Example: Validated Behavioural Pain Assessment Tools for Non-Verbal Critically Ill Adults

SELECTED VALIDATED BEHAVIOURAL PAIN ASSESSMENT TOOLS FOR USE IN NONVERBAL CRITICALLY ILL ADULTS		
<i>*Note: Screening tools for the presence/absence of pain but NOT pain intensity*</i>		
MEASURE	INDICATORS/ COMPONENTS	CONSIDERATIONS
*Behavioural Pain Scale (BPS)	<p>Facial expression, upper limbs, compliance with ventilator</p> <p>Each item scored from 1 to 4</p> <p>Total score from 3 to 12</p>	<ul style="list-style-type: none"> ■ Detection of pain with procedures or pharmacologic pain management ■ Used with sedated, mechanically ventilated critically ill adults in medical, surgical, and trauma intensive care units Note: Brain-injured persons are not well represented in current study ■ Evidence of interrater reliability and validity, improved pain practices (increased in frequency of pain assessments, analgesics and person outcomes after tool use (shorter duration of mechanical ventilation) ■ Feasible and easy to use; completion requires 2 to 5 minutes ■ Cut-off score >5 for the presence of pain established by authors ■ Available in French, English, and Chinese ■ Practical guide available in Chanques et al. (2006) ■ An alternate version is available for non-intubated ICU patients known as the BPS-NI (Chanques et al., 2009) ■ Disadvantages: Cut-off score not established with gold standard of pain; difficult to comment on its ability to detect different levels of pain; some items are confusing (upper limbs refer to position and muscle tension, scoring of compliance with ventilator); BPS content may not be applicable to brain-injured ICU persons as this group was under-represented in studies

**SELECTED VALIDATED BEHAVIOURAL PAIN ASSESSMENT TOOLS ...con't
FOR USE IN NONVERBAL CRITICALLY ILL ADULTS**

Note: Screening tools for the presence/absence of pain but NOT pain intensity

MEASURE	INDICATORS/ COMPONENTS	CONSIDERATIONS
<p>*Critical-Care Pain Observation Tool (CPOT)</p>	<p>Facial expression, body movements, compliance with ventilator (intubated persons), vocalization (non-intubated persons), muscle tension</p> <p>Each item scored from 0 to 2</p> <p>Total score from 0 to 8</p>	<ul style="list-style-type: none"> ■ Detection of pain, procedural pain, evaluation of pharmacologic interventions for pain management ■ Used with critically ill adults unable to self-report, mechanically ventilated or not in medical, surgical, and trauma intensive care units ■ Note: Less applicable in brain-injured persons especially those with an altered level of consciousness (LOC) or coma; current research is adapting its content for this group ■ Evidence of interrater reliability and validity; improved pain practices (increased in frequency of pain assessments, better use of analgesics and sedatives) and outcomes after tool use (fewer complications) ■ Feasible and easy to use; completion within one minute when the person is at rest ■ Cut-off score >2 for the presence of pain established with gold standard of pain(Gélinas et al., 2009) ■ Available in French, English, Italian, Spanish, and Swedish ■ Directions for use available in Gélinas (2010) ■ Free teaching video available online at http://pointers.audiovideoweb.com/stcasx/il83win10115/CPOT2011-WMV.wmv/play.aspx ■ Disadvantages: Inability to detect mild pain; cut-off score may vary from 2 to 3 between ICU groups (Gélinas & Johnston, 2009); CPOT needs revision to become applicable to brain-injured ICU persons with altered LOC
<p>The Checklist of Nonverbal Pain Indicators (CNPI)</p>		<ul style="list-style-type: none"> ■ Designed to observe and measure pain behaviours in acute care post operative settings ■ Used in cognitively impaired elders ■ Items in scale are conceptually sound ■ No recommendations for a cut-off score ■ Well established evidence of interrater reliability and validity for use with elders with cognitive impairment after hip surgery

(Chanques et al, 2009; Feldt, 2000; Gélinas, Fillion, Puntillo, Viens, & Fortier, 2006; Gelinas, Harel, Fillion, Puntillo, & Johnston, 2009; Gélinas & Johnston, 2009; Payen et al., 2001)

Appendix M: Pain Assessment Tools for Elders with Cognitive Impairment

PAIN ASSESSMENT IN ELDERS WITH COGNITIVE IMPAIRMENT		
<i>*Note: Screening tools for the presence/absence of pain but NOT pain intensity*</i>		
MEASURE	CHARACTERISTICS	CONSIDERATIONS
Pain Assessment in Advanced Dementia (PAINAD) Scale.	<ul style="list-style-type: none"> ■ Observational behavioural tool of 5 items: breathing, facial expression, body language, negative vocalizations and consolability ■ Each item rated on a scale of 0-2 for a total score from 0 (no pain) to 10 (severe pain); score 1 or 2 indicates some pain 	<ul style="list-style-type: none"> ■ For use with people having advanced dementia ■ Feasible in clinical setting – can be completed in 1-3 min. ■ Clear and concise concepts, user-friendly ■ Tool can be used for screening and follow-up ■ Evidence of reliability and validity ■ Available online at http://www.mhpcn.ca/uploads/PAINAD.1276125778.pdf
Pain Assessment Checklist for Seniors with Limited Ability to Communicate (PACSLAC)	<ul style="list-style-type: none"> ■ 60-item tool assessing 4 categories: facial expressions, activity/body movements, social and personality changes and other (appetite or sleeping changes) ■ Items in each category are rated present or absent, for a total score of 60 	<ul style="list-style-type: none"> ■ Feasible in clinical setting – can be completed in 5 min ■ Helpful to consolidate training and nursing documentation ■ Evidence of reliability and validity ■ Available online at http://www.geriatricpain.org/Content/Assessment/Impaired/Pages/PACSLAC.aspx
DOLOPLUS 2 scale	<ul style="list-style-type: none"> ■ Observations of somatic, psychomotor and psychosocial behaviours ■ Items scored on scale of 0-3, total score range from 0 –30 ■ Score of 5 or more indicates pain, maximum score 30 	<ul style="list-style-type: none"> ■ For use with people having mild or moderate cognitive impairment and with proxy rating when a person is unable to self-report ■ User friendly – takes minutes to complete ■ Validation done in non-English speaking people ■ Available online at http://www.assessmentscales.com/scales/doloplus

(Fuchs-Lacelle & Hadistavropolous, 2004; Hadistavropolous et al., 2006; Herr et al., 2011; Lefebvre-Chapiro & the DOLOPLUS Group, 2001; Schofield et al., 2008)

Appendix N: Strategies Recommended for Infant and Children Pain (Acute) Management

STRATEGIES RECOMMENDED FOR INFANT AND CHILDREN PAIN (ACUTE) MANAGEMENT

LEGEND: ✓ = recommended ⚠ = use with caution ? = effect unknown N/A = not applicable

Pain in Infants

TYPE OF PAIN MANAGEMENT	THERAPY	MINOR PROCEDURES	SURGICAL	COMMENTS	LEVEL OF EVIDENCE
Non-Pharmacological (Physical/ Psychological)	Breastfeeding	✓	N/A	Newborn – 12 months	Ia
	Skin-to-skin care	✓	?	Most evidence for preterm infants	Ia
	Pacifier Sucking	✓	?	Most effective when combined with sweet solutions	Ia
	Swaddling	✓	?	Less effective than sucrose	Ia
	Positioning	⚠	?		Ib
	Music	⚠	?		Ia
Pharmacological	Sucrose	✓	?	Insufficient on its own for minor surgery (e.g., circumcision). Use in conjunction with other recommended interventions	Ia
	Opioids	?	✓	Conflicting evidence of background opioid infusions for acute minor procedural pain	Ib
	NSAIDS	?	?		IV
	Acetaminophen	?	?		IV
	Topical Anesthetics	?	N/A	Less effective than sucrose for infants	Ia

STRATEGIES RECOMMENDED FOR INFANT AND CHILDREN PAIN (ACUTE) MANAGEMENT ...con't

LEGEND: ✓ = recommended ⚠ = use with caution ? = effect unknown N/A = not applicable

Pain in Children

TYPE OF PAIN MANAGEMENT	THERAPY	MINOR PROCEDURES	SURGICAL	COMMENTS	LEVEL OF EVIDENCE
Non-Pharmacological (Physical/ Psychological)	Deep breathing	?	✓	For procedural pain – combined with distraction for younger children (e.g., blowing bubbles, pinwheels)	1a
	Nurse-led distraction	✓	N/A	Reduces self-reported pain	1a
	Child-led distraction	✓	N/A	Reduces self-reported pain	1a
	Parent-led distraction		N/A		
	Vapocoolants	✓	N/A	Tolerated better in children over 3, mixed effectiveness for IV cannulation	Variable
	Information/preparation	✓	?	Effective in reducing observer-reported pain and heart rate in children	1a
	Hypnosis	✓	N/A	Reduces self-reported pain/distress and behavioural distress	1a
	Combined cognitive-behavioural interventions	✓	N/A	Reduces observer-reported distress and behavioural distress	1a
	Needleless injection device (e.g., J-tip) for delivery of lidocaine	✓		Ideal when rapid local anesthesia is desired	1a
	*NB Most evidence relates to needle related pain				

STRATEGIES RECOMMENDED FOR INFANT AND CHILDREN PAIN (ACUTE) MANAGEMENT ...con't

LEGEND: = recommended = use with caution = effect unknown N/A = not applicable

Pain in Children

TYPE OF PAIN MANAGEMENT	THERAPY	MINOR PROCEDURES	SURGICAL	COMMENTS	LEVEL OF EVIDENCE
Pharmacological	Opioids	✓	✓	Effective PCA prescriptions may include a low-dose background infusion IM injections are distressing and less effective than IV infusions Intranasal or oral administration of opioids may effective in the ED setting	Ila & Iib
	NSAIDS	✓	✓	Decrease opioid requirement after surgery	Ila
	Acetaminophen	✓	✓	Decrease opioid requirement after surgery	Ila
	Topical Anesthetics	✓	N/A	Effective for laceration repair, wound management Amethocaine more effective than EMLA Most effective for children older than 3 years	Ila
	Vapocoolant spray	✓	N/A	For IV cannulation in children between 6 and 12 years	Ib
	Anticonvulsants	N/A	?		IV
	Antidepressants	N/A	?		IV

(Cignaccio, et al., 2007; Chambers, Taddio, Uman, McMurtry, & Team (2009); Harrison, Bueno, Yamada, Adams-Webber, & Stevens, 2010; Harrison et al., 2010; Hatfield, Chang, Bittle, Deluca, & Polomano, 2011; Lander, Weltman, & So, 2006; Leef, 2006; Nilsson, 2008; Obeidat, Kahalaf, Callister, & Froelicher, 2009; Pillai-Riddell et al., 2011; Spence et al., 2010; Shah, Taddio, & Rieder, 2009; Stevens, Yamada, & Ohlsson, 2010; Stinson, Yamada, Dickson, Lamba, & Stevens, 2008; Taddio et al., 2009)

Developed by RNAO Expert Panel

Appendix O: Pasero Opioid-Induced Sedation Scale (POSS) with Interventions*

S = Sleep, easy to arouse

Acceptable; no action necessary; may increase opioid dose if needed

1 = Awake and alert

Acceptable; no action necessary; may increase opioid dose if needed

2 = Slightly drowsy, easily aroused

Acceptable; no action necessary; may increase opioid dose if needed

3 = Frequently drowsy, arousable, drifts off to sleep during conversation

Unacceptable; monitor respiratory status and sedation level closely until sedation level is stable at less than 3 and respiratory status is satisfactory; decrease opioid dose 25% to 50%¹ or notify prescriber² or anesthesiologist for orders; consider administering a non-sedating, opioid-sparing nonopioid, such as acetaminophen or an NSAID, if not contraindicated.

4 = Somnolent, minimal or no response to verbal or physical stimulation

Unacceptable; stop opioid; consider administering naloxone^{3,4}; notify prescriber² or anesthesiologist; monitor respiratory status and sedation level closely until sedation level is stable at less than 3 and respiratory status is satisfactory.

*Appropriate action is given in italics at each level of sedation.

1 Opioid analgesic orders or a hospital protocol should include the expectation that a nurse will decrease the opioid dose if a patient is excessively sedated.

2 For example, the physician, nurse practitioner, advanced practice nurse, or physician assistant responsible for the pain management prescription.

3 Mix 0.4 mg of naloxone and 10 mL of normal saline in syringe and administer this dilute solution very slowly (0.5 mL over two minutes) while observing the patient's response (titrate to effect) (Source: Pasero, C., Quinn, T.E., Portenoy, R.K., McCaffery, M. & Rizo A. Opioid analgesics. In: Pain Assessment and Pharmacologic Management, p.510. St. Louis, MO: Mosby/Elsevier; 2011; American Pain Society (APS). Principles of Analgesic Use in the Treatment of Acute Pain and Chronic Cancer Pain. 6th ed. Glenview, IL: APS; 2008.)

4 Hospital protocols should include the expectation that a nurse will administer naloxone to any patient suspected of having life threatening opioid-induced sedation and respiratory depression.

Note. From *Pain Assessment and Pharmacologic Management*, by C. Pasero and M. McCaffery, 2011, St. Louis, MO: Mosby/Elsevier. Copyright (1994) by Chris Pasero. Used with permission.

Appendix P: Description of the Toolkit

Best practice guidelines can only be successfully implemented if planning, resources, organizational and administrative supports are adequate and there is appropriate facilitation. In this light, the Registered Nurses' Association of Ontario, through a panel of nurses, researchers and administrators, has developed the *Toolkit: Implementation of Best Practice Guidelines (2nd ed.)* (2012b). The *Toolkit* is based on available evidence, theoretical perspectives and consensus. We recommend the *Toolkit* for guiding the implementation of any clinical practice guideline in a health-care organization.

The *Toolkit* provides step-by-step directions to individuals and groups involved in planning, coordinating and facilitating the guideline implementation. These steps reflect a process that is dynamic and iterative rather than linear. Therefore, at each phase preparation for the next phases and reflection on the previous phase is essential. Specifically, the *Toolkit* addresses the following key steps, as illustrated in the “Knowledge to Action” framework (RNAO, 2012b; Straus et al., 2009) in implementing a guideline:

1. Identify problem: identify, review, select knowledge (Best Practice Guideline).
2. Adapt knowledge to local context:
 - Assess barriers and facilitators to knowledge use; and
 - Identify resources.
3. Select, tailor and implement interventions.
4. Monitor knowledge use.
5. Evaluate outcomes.
6. Sustain knowledge use.

Implementing guidelines in practice that result in successful practice changes and positive clinical impact is a complex undertaking. The *Toolkit* is one key resource for managing this process. The *Toolkit* can be downloaded at <http://rnao.ca/bpg>.

Endorsement



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January 17, 2014

Doris Grinspun,
Chief Executive Officer
Registered Nurses' Association of Ontario
158 Pearl St
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Dear Dr. Grinspun:

Thank you for you and your committees' work developing the "Assessment and Management of Pain Guideline." It is an impressive document and well reflects the commitment and dedication of those in the nursing community to improve the care for patients. The guideline is comprehensive, up-to-date and provides practical guidance and resources.

The IASP Executive Committee is pleased to inform you that after review by an independent IASP Endorsement Task Force IASP endorses these guidelines. The reviewers were unanimous in their endorsement recommendation and appreciated that the document emphasizes assessment of pain (initial and follow-up) which is the cornerstone of pain management.

Again, congratulations on your work.

Sincerely yours,

Fernando Cervero, President

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INTERNATIONAL
AFFAIRS & BEST PRACTICE
GUIDELINES

TRANSFORMING
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KNOWLEDGE

Clinical Best
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