

Chapter 6: *Physical Comfort*

The goal of the chapter is to apply the quality improvement model to the specific domain of physical comfort. Along the way, we will describe in more depth three useful quality improvement tools: PDCA cycles, process flow charts, and Ishikawa diagrams. To accomplish these tasks, we divide the chapter into two sections.

SECTION A focuses on pain management, with particular attention to the knowledge necessary to convince stakeholders of a need for change and to define an overall goal.

SECTION B follows the experience of an inpatient hospice unit as it implements the quality improvement model and uses quality improvement tools to ameliorate dyspnea among persons dying on the unit.

SECTION A -- PAIN MANAGEMENT

STEP I -- CONDUCT AN AUDIT



Key Item- the questions the TOOLKIT After-death Bereaved Family Member Interview asks about pain

1. (In that last week/While under care of the hospital/hospice/nursing home), was [PATIENT] on medicines to treat (his/her) pain?
 YES NO DON'T KNOW
2. (In that last week/While under care of the hospital/hospice/nursing home), did (his/her) doctor or the medical staff who cared for (him/her) tell you about how (his/her) pain would be treated, in a way that you could understand?
 YES NO
3. (In that last week/While under care of the hospital/hospice/nursing home), did [PATIENT] receive too much, too little, or just the right amount of medication for (his/her) pain?
 TOO MUCH TOO LITTLE RIGHT AMOUNT
4. (In that last week/While under care of the hospital/hospice/nursing home), was there ever a time when one doctor or nurse said one thing about treatment of (his/her) pain and another said something else?
 YES NO
5. (In the last week of [PATIENT'S] life/While [PATIENT] was under care of the hospital/hospice/nursing home), how well did those taking care of [PATIENT] make sure (his/her) symptoms were controlled to a degree that was acceptable to (him/her)?
[0 1 2 3 4 5 6 7 8 9 10]



STEP I

STEP II -- ENGAGE STAKEHOLDERS & DEFINE A GOAL



STEP II



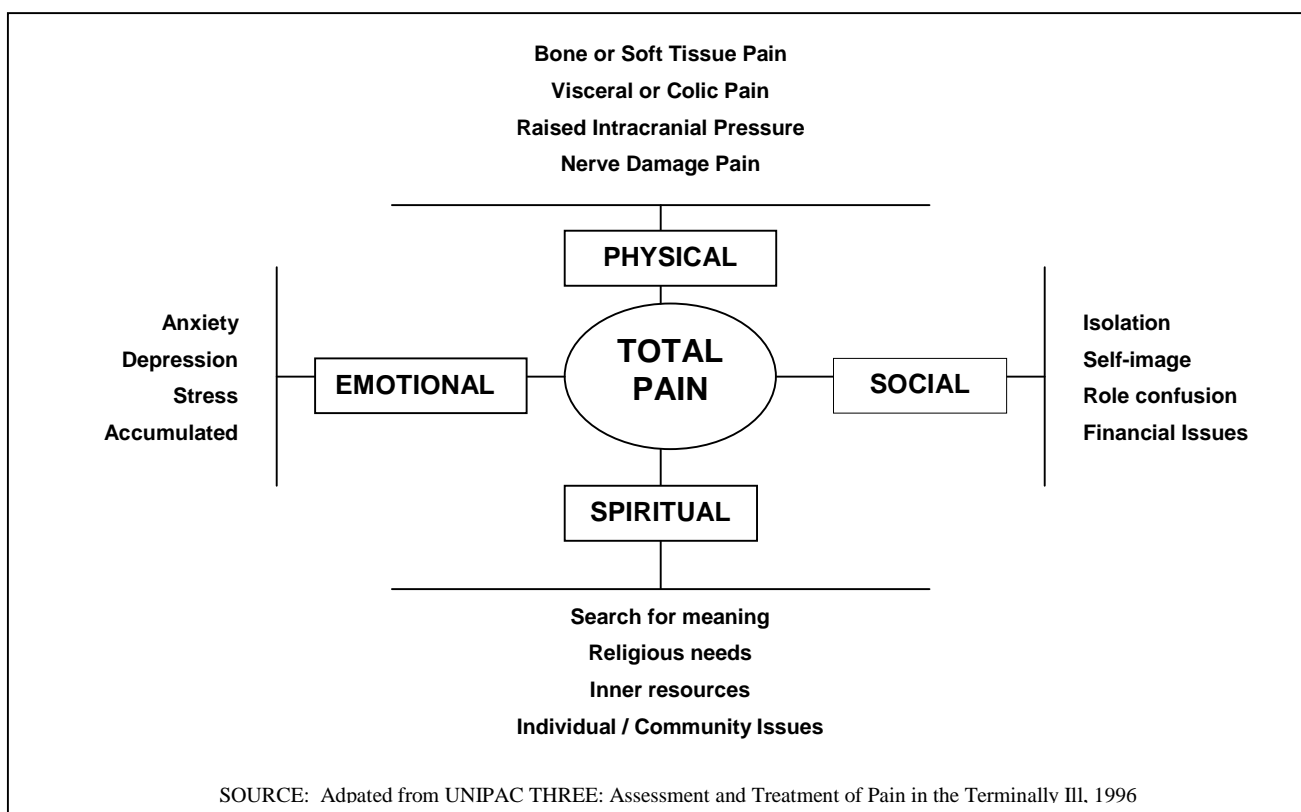
6A.1 Key Item – the importance of focusing on pain

The importance of the adequate treatment of pain and other symptoms such as dyspnea is central to the management of the physical and psychological well-being of all patients. Adequate pain and symptom control translates to increased personal control.

6A.1a The Experience of Pain

Pain is a symptom most expected and most feared by terminally ill patients. Unrelieved pain is a major source of distress that can have enormous physiological and psychological effects on both the patient and their loved ones. Poorly controlled pain can become a person's sole focus as it appears unending and steadily worsening. The distraction of pain can expand to occupy a patient's whole attention, isolating him/her from the world around allowing little opportunity to attend to relationships and emotional/spiritual closure. Pain negatively affects the quality of life by impairing daily functions, social relationships, sleep, and/or self worth.

Total Pain: The complex and interrelated dimensions of pain



6A.1b Patient and Family Experience of Total Pain

Pain is what the patient says it is. Pain is not what the clinician expects it to be or thinks it ought to be. Clinicians must learn to appreciate the complexities of the total pain experience.

Pain is an experience that is highly individualized and multidimensional. For this reason it is impossible for clinicians to see the patient's suffering or to directly measure it. The Total Pain diagram provides a useful construct for appreciating the complexity of the pain experience. Despite these complexities, pain management can be simplified using clinical skills and tools.



Most importantly, the patient's and family's account of their pain experience is the most valuable tool available to the clinician. Time spent listening to the patient and family permits them to express feelings that may range from frustration, fear, anger, and guilt to stoicism, hopelessness and even acceptance. Avoid assumptions – not all patients want to be completely pain free. *Listen carefully* for clues about the meaning of pain and suffering, observe for emotional responses as they tell you about their experiences.

Involving the patient and family in the development of the pain and symptom management plan allows them to regain a sense of control at a time when so much seems out of their control. Pain and other distressing symptoms are very distracting and can keep patients and families from attending to important life closure issues. Too often, unrelieved pain leaves families permanently scarred with distressing memories of a loved one's final days.

6A.1c Remember P-A-I-N

Remember that the experience of pain is multidimensional. Each dimension contributes to the individual's perception and response to pain. Keep this helpful mnemonic in mind:

*Pain
impacts
the entire
family.*

- | | |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P | Physical problems, often multiple, must be specifically diagnosed and treated. |
| A | Anxiety , anger, and depression are critical components of pain that must be addressed by the clinician in conjunction with other health care professionals. |
| I | Interpersonal problems, including loneliness, financial stress, and family tensions, are interwoven in the fabric of a patient's symptoms. |
| N | Non-acceptance of approaching death, a sense of hopelessness, and a desperate search for meaning in life can cause severe suffering unrelieved by medications. |

SOURCE: UNIPAC THREE: Assessment and Treatment of Pain in the Terminally Ill, 1996



6A.2 Key Item - expert advice about pain management

Experts agree that effective treatments are available to manage pain for the majority of patients. Unfortunately, pain is frequently not recognized and therefore it is under-treated.

Achieving excellent practice in pain and symptom management requires an interdisciplinary and collaborative approach that is patient-family centered. It is important to identify basic principles that can be used to guide practice in your clinical setting. These principles form the foundation from which to build your team's best practice. Here are some key principles to consider:

6A.2a Principles of Pain Management

- ✓ **Keep the patient in control.** The patient is the authority about his/her pain experience.
- ✓ **Focus on the patient and his/her loved ones.** Pain disrupts the entire family. It is important to keep this in mind when assessing relationship issues and dynamics.
- ✓ **Utilize a team approach.** The complexity of pain demands a team approach. The patient and caregivers, as the core of this team, will require the assistance of physicians, nurses and other professionals.
- ✓ **Assess patients in the context of their *Total Pain* experience.** Physical, emotional, social and spiritual domains must be considered.
- ✓ **Employ multiple methods appropriate for the patient.** Modify disease (palliative surgery, radiation, hormonal or chemotherapy); modify pain perception (drugs, education, psychological support, relaxation); interrupt pain transmission (nerve blocks, TENS, acupuncture); modify lifestyle (physiotherapy aids, homemaking services, meditation)
- ✓ **Treat other symptoms and side effects.** Pain and its treatment are associated with a variety of other symptoms which may increase the perception of pain. Pain relief must include measures to control other sources of discomfort, such as nausea, vomiting, constipation, anorexia, dyspnea, weakness.
- ✓ **Never use placebos.** Placebos should never be used in this patient population. It is illogical and unethical.
- ✓ **Reassess, reassess and reassess again!** Pain is a dynamic condition that requires meticulous monitoring. The presence of pain should always be considered an emergency requiring immediate attention and relief.



Treating pain requires careful listening.

6A.2b Pain Management Guidelines, Standards and Position Statements

There are numerous guidelines available from organizations dedicated to improving the management of pain. Most of these guidelines have elements that are fundamental to any pain management program regardless of care setting. A comprehensive listing of resources, guidelines, standards and position papers is available at [PainLink](#) and [Talaria](#).

A NEW PATIENT ARRIVES ON THE UNIT FOR ADMISSION



Gloria arrived on the oncology unit with her daughter at 11:30 am. Gloria's doctor decided to admit her from the clinic following the discovery of a breast lesion along an old mastectomy suture line. The skin is reddened and warm to touch. Gloria is also complaining of pain in the lower lumbar region for which she is taking Percocet "once in a while". Gloria has been taking 30 mg of MS Contin BID for about 3 months. She doesn't remember if she took her dose this morning. Gloria's daughter seems anxious and often answers for her mother. When asked about how she would rate her pain now, Gloria responds "Well, it's been worse but I try not to complain too much – I hate to worry my family. Anyway, I suppose I should expect some arthritis at my age." Her daughter adds, "Mom is pretty strong. She doesn't like to depend on pain killers. She still lives by herself and believes that God helps her get by each day."

Introducing Gloria



a case study



6A.3 Key Item – the basics about pain management

*Knowledge alone does not improve practice...
Knowledge in the presence of clinical wisdom and experience
improves practice!*

KNOW YOUR ABC'S

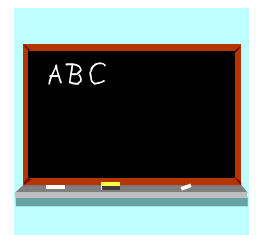
Ask about and **A**ssess physical comfort regularly.

Believe the patient and family in their reports of pain and what relieves it.

Choose pain control options appropriate for the patient, family and setting.

Deliver interventions in a timely, logical, and coordinated fashion.

Empower patients and their families. **E**nable them as much control as possible.



6A.3a Assessment & [Assessment Tools](#)

Key Elements of Pain History	Suggested Questions
Site(s) and Radiation	Where is it? Does it spread anywhere?
Timing	How long have you had it? Does it come and go or is it always there? How long does it last?
Quality	Describe the pain in your own words (e.g. dull, sharp, ache, throbbing, burning, stabbing)
Severity	How severe is the pain?
Aggravating Factors	What brings on the pain or makes it worse? (e.g. posture, movement, eating, time of day)
Relieving Factors	What makes the pain better? (e.g. medication, positioning, massage, music, prayer)
Impact of Pain on Daily Life <ul style="list-style-type: none"> • on sleep: • on mood: • on activity: 	Does pain disturb your sleep? Does the pain cause you to be depressed, angry, discouraged? How has pain affected your activities (e.g. job, work in house, social life, relationships, hobbies)
Previous Therapy	Which drugs or other therapies have helped? Which ones have failed to relieve the pain?
SOURCE: Adapted from <u>A Monograph on the Management of Cancer Pain</u> , Health & Welfare Canada, 1984	

Assessing Physical Comfort in the Cognitively Impaired Patient – Behavior has meaning and may be clues to assessing pain in a patient with cognitive impairment and/or dementia. Look for:

Cognitive functioning

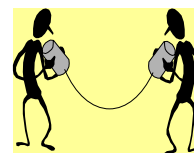
- change in activity level or functioning; changes in sleep patterns;
- tense body language, fidgeting, rubbing of body part, wringing of hands;
- sad or frightened facial expression;
- vocalizations may range from being hushed and negative to mournful and groaning;
- breathing that is audible or appears labored or exaggerated.

Assessing Physical Comfort in a non-English speaking patient – Culture and ethnicity may influence perception and reporting of pain and other symptoms. Medical interpreters, when available, should be used to assist non-English speaking patients and caregivers through the pain assessment. Medical terms and phrases may have very different meanings when literally translated and may need to be put into cultural context for the patient and caregiver. Visual Analog Scales and Faces of Pain Scales may be helpful after they are explained to the patient in their first language.

Language Issues

Reviewing and Reassessing – Pain is seldom static. Frequent reassessment and explanation to the patient and family must be done regularly.

Listening for Clues to Pain Type – Listen carefully to how the patient or family describes the pain. Certain words can give you important information.



Description and Clues	Types of Pain
"I ache all the time"	Visceral Pain – usually localized to the site of injury/tumor. Pain can be referred to the somatic area supplied by the same nerve root.
"I'm sore & stiff" "It feels like a charley-horse"	Muscle Pain – sometimes difficult to isolate as it may be due to an underlying disorder, a systemic or metabolic cause.
"It hurts when I move" "It aches at night"	Bone Pain – local bone pain can range from dull ache to deep, intense pain. Usually well localized and worse on movement and weight-bearing, it may be worse at night. Bone pain can be masked by muscle pain arising from involuntary, protective spasm of the surrounding muscles.
"It feels like my skin is burning" "It feels like someone stabbed me" "It is a shooting pain"	Neuropathic Pain – Constant, superficial burning pain is usually caused by actual damage to peripheral nerve, plexus, root or spinal cord. When a specific nerve is involved, pain is in a relatively constant area of the body surface (dermatome) but may also be referred to the somatic area supplied by the nerve. The degree of nerve pain will be effected by the degree of nerve compression or infiltration.
"Its worse when I breathe in"	Pleuritic Pain – patient may complain of pain on inspiration or may present with guarded, shallow breathing.
"Comes & goes like cramps"	Colic Pain – partial or complete obstruction of a hollow viscus can result in intermittent cramps.

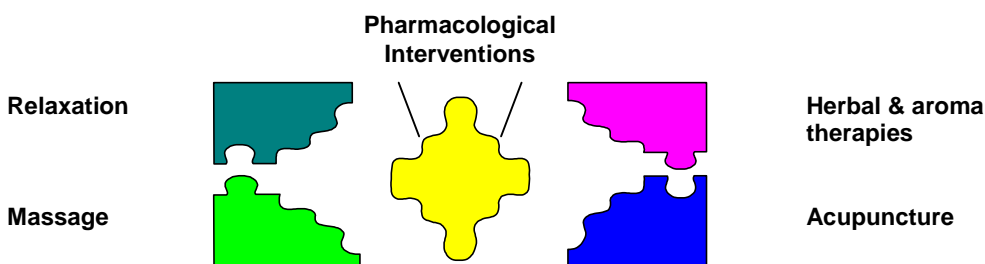
SOURCE: Adapted from *A Monograph on the Management of Cancer Pain*, Health & Welfare Canada, 1984; *Cancer Pain*, Patt, RB, 1993; *Oxford Textbook of Palliative Medicine*, Doyle, Hanks, MacDonald, 1993.

6A.3b Treatments for Pain

Pharmacological and Non-pharmacological Interventions

Pain management is best accomplished through a combination of pharmacological and non-pharmacological techniques. Each intervention must be considered in the context of the patient's total pain experience, taking into account their individualized pain assessment and the patient's personal preferences.

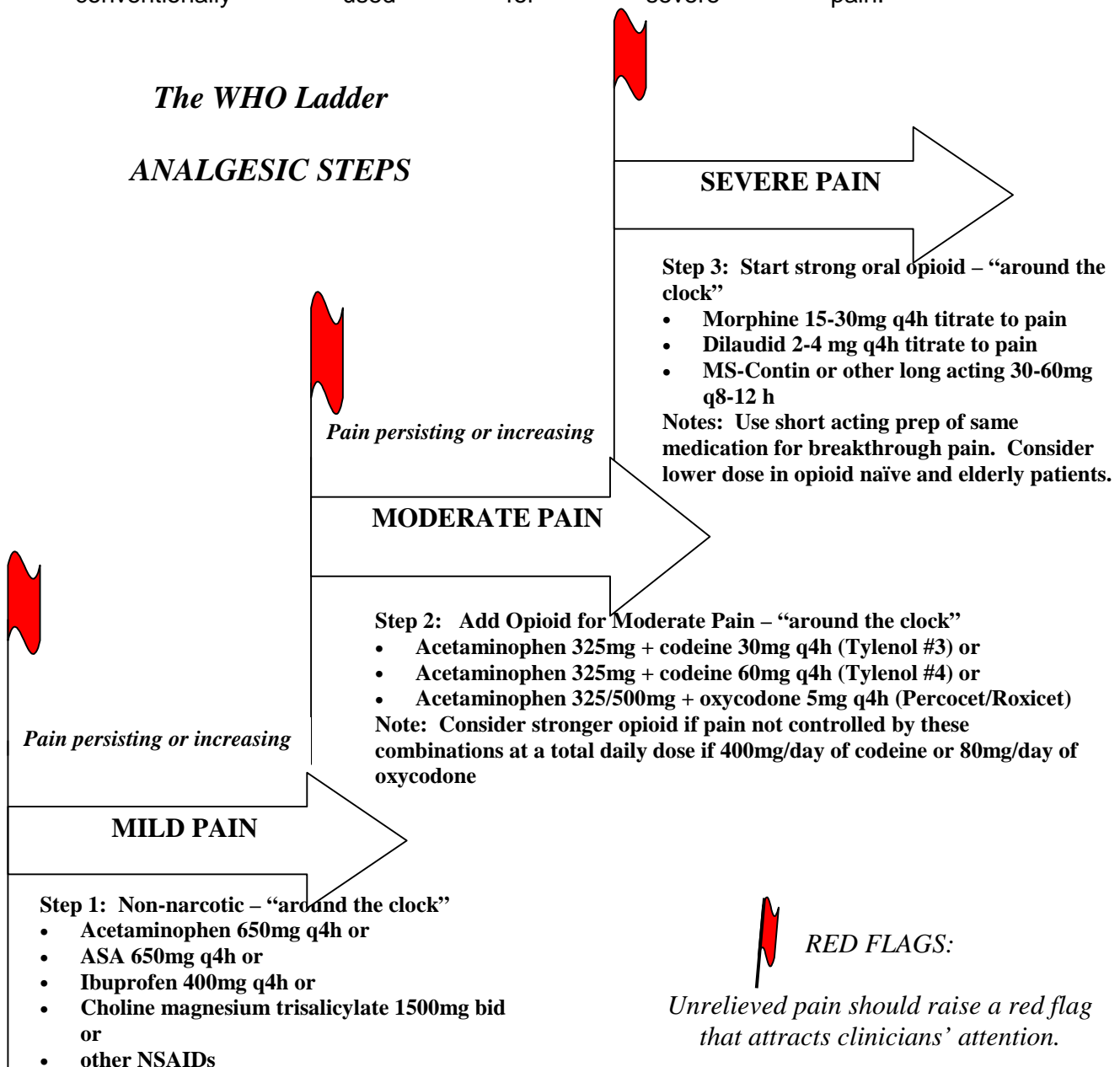
The complexity of the pain experience requires multiple treatment methods.



Keep it Simple: The WHO “Analgesic Ladder”

- **WHO STEP 1** - Patients with mild to moderate pain should be treated with nonopioid analgesic, which should be combined with adjuvant drugs if indication for one exists.
- **WHO STEP 2** - Patients who have limited opioid exposure and present with moderate to severe pain or who fail to achieve adequate relief after a trial of a nonopioid analgesic should be treated with an opioid conventionally used for moderate pain.
- **WHO STEP 3** - Patients who present with severe pain or who fail to achieve adequate relief following appropriate administration of drugs on the second step of the analgesic ladder should receive an opioid conventionally used for severe pain.

The WHO Ladder
ANALGESIC STEPS





2:30 PM – The admission paperwork is complete but the process was quite rushed. Two other admissions arrived at 12:45 PM, just I was getting to the pain assessment of Gloria. Well, I’ll tell evenings can get back to the assessment later. Gloria looks like she is sleeping now anyway, and isn’t due for her MS Contin until bedtime.

3:15pm – Gloria’s daughter asks for a hot water bottle for her mother’s back, saying that it’s probably the hospital bed. I bring in the warm pad and help Gloria turn to her side. She grimaces and pulls her right leg up – she is clearly uncomfortable. I ease her over and suggest we complete her admission pain assessment. While we talk I can see that she is a little confused about time. She tells me she always takes “those purple pills” after breakfast and then at bedtime. Gloria tells me that she fell asleep after supper last night and never got back to the kitchen where she keeps her “purple pills”. She said she took some Tylenol when she got up to use the bathroom later in the night. Gloria says she left the house so early this morning to get to the doctors on time that she never even had breakfast never mind those “pain killers”. So it appears that Gloria has not had any morphine in more than 24 hours.

Gloria isn’t sure exactly how many Percocets she takes a day but knows she takes “two at a time and usually I take them around mealtime” I explain the Visual Analog Scale and ask Gloria to rate her current pain with a number from 1 to 10, with 1 being no pain at all and 10 being the worst pain she ever had. She tells me that her worst pain ever had to be the abscessed tooth she had a few years ago and although her current back pain isn’t as bad as that, it aches and throbs “just like that awful toothache.” Her other pain is related to the chest wall lesion that she describes as being “sore and hot” now. Gloria is having trouble putting a number to her discomfort. Gloria’s daughter reports that she just refilled her mother’s Percocet two days ago. The bottle originally contained 30 pills. There are now 20 pills in the bottle.

More on the



case study

Let’s review what we know about Gloria and her pain:

Assessment	Pain Site #1 – Lower Back	Pain Site #2 – Chest Wall
Timing and quality of pain	2 months duration; “it comes and goes but when it comes it lasts a few days”	10 days duration; “started out just sore but now it’s on fire”
Severity	“It is very distracting. I have trouble concentrating when it is acting up.”	“The burning right now is very bad. Worse than usual.”
Aggravating Factors	“I went to the mall last week with my grandchildren and all that walking put me in bed for the whole next day. I told them not to come by the other day.”	“It is hard to dress in the morning without aggravating it. I need to wear very loose clothes, and I can’t wear my bra at all anymore.”
Relieving Factors	“Hot water bottle feels good especially when I take two of the white pills at the same time.”	“I put a cool wash cloth on during my bath.”

What else do we know?

- Gloria lives alone and has been managing her own medications. Her daughter describes her as stoic and thinks she may be underreporting the impact of the pain on her sleep and daily activities. She thinks Gloria looks very tired and sometimes seems more forgetful than usual.
- God is an important part of Gloria's belief system.
- Gloria's pain is not well controlled on her current regimen of MS Contin 30 mg BID and Percocet 1-2 tabs Q 4-6 hours as needed

Treating pain requires careful listening.

It is helpful at this point to convert Gloria's total dose of analgesic to the oral morphine equivalent. This conversion will provide a starting point from which to compare relative potencies of medication needed to effectively control Gloria's escalating pain.

Talaria, a resource for health care professionals, addresses the management of pain and offers providers several tools to assist with patient care. The [equianalgesic drug conversion calculator](#) allows you to enter multiple drugs and dosages and obtain the proper dosage when converting to a different drug. Please note that while these tools were developed and tested by experienced medical practitioners, they are intended as aids only and not as authoritative resources.

Dose conversion tools

Oral Morphine Equivalents		
Oral Morphine Equivalent	Opioid	Other Preparations
1 – 2 mg	codeine 30 mg oxycodone 1 mg morphine immediate release 1- 2 mg	Tylenol #3 (codeine 30 mg plus Acetaminophen (APAP) Hycodan 5 mg (hydrocodone)
5 mg	oxycodone 5 mg morphine immediate release 5 mg	Percocet (oxycodone 5 mg plus APAP 325 mg)
10 mg	hydromorphone (Dilaudid) 2.5 mg morphine immediate release 10 mg	morphine – Slow Release 30 mg q 12 hours
15 mg (= 5 mg parenteral)	morphine immediate release 15 mg	morphine – Slow Release 30 mg q 8 hours
20 mg	Hydromorphone (Dilaudid) 5 mg Morphine immediate release 20 mg	Consider higher concentration preparation of morphine (20mg=1cc)
30 mg (=10 mg parenteral)	Morphine immediate release 30 mg	Morphine – slow release 60 mg q 8 hours

Based on Gloria's assessment and her daughter accounting of the Percocet, let's convert Gloria's current medication use to the Oral Morphine Equivalent for a twenty four hour period.

Converting Gloria's dosage

MS Contin 30 mg BID = 60 mg / day of slow release morphine
Percocet – about 6 tabs per day = 6 x 5 mg of oral morphine equivalent = 30 mg /day

Therefore, Gloria is using the equivalent of 90 mg of oral morphine per day but her pain is not well controlled. If we were to dose Gloria with immediate

release oral morphine we would need to administer a minimum of 15 mg every four hours based on the duration of effect for oral morphine. Every four-hour dosing is useful during the titration phase while Gloria is hospitalized but the team needs to work towards a practical dosing schedule for Gloria to use when she goes home. The team might want to consider long acting sustained release products or possibly a transdermal fentanyl patch.

*Dealing with
breakthrough
pain*

Another important consideration in developing Gloria's analgesic plan is to have an as needed order for breakthrough pain. Generally, the breakthrough dose is $\frac{1}{2}$ of the usual q 4 hour dose. Breakthrough doses should be monitored carefully during the titration phase. If a patient is requiring 4 or more breakthrough doses during a 24 hour period their regular four hour dose needs to be titrated upward to reflect the total oral morphine equivalent the patient is taking in both her routine dose and her breakthrough doses.



Now, back to Gloria.

Since she is not pain free on her current regimen of 90 mg of oral morphine equivalent per day it is reasonable to increase her total daily dose. A starting point might be an increase of 25% to 30%, which would bring her to about 110 to 120 mg per day of oral morphine equivalent.

More on the



case study

But first, let's consider the type of pain Gloria is experiencing. The pain in Gloria's lower back sounds like it is bone pain. This is confirmed when a bone scan reveals metastasis to the right pelvis and hip region. The chest wall pain involves soft tissue but nerve involvement is suspected given the proximity to the brachial plexus and her description of burning pain.

The team might consider a titration plan as follows:

- Morphine Sulfate Immediate Release (MSIR) 20 mg q 4 hours around the clock
- Morphine Sulfate Immediate Release 5 – 10 mg q 4 hours as needed for breakthrough pain.
- Ibuprophen 400 mg QID for bone pain
- Amitriptyline 25 mg q hs for nerve pain
- Colace 1-2 tabs QD
- Senna 1-2 tabs BID

During the next two days, Gloria's pain, mental status and other symptoms must be reassessed frequently. The goal of converting Gloria's oral morphine equivalent to a more convenient delivery method should begin before discharge to assure a smooth transition. At the end of day two, Gloria had received 20 mg of oral morphine every four hours and 3 breakthrough doses of 10 mg each in the previous 24 hours. This is equivalent to 150 mg of oral morphine per day (6 doses of 20 mg and 3 doses of 10 mg). The

*Preparing
for a smooth
transition*

breakthrough doses were associated with procedures and transferring to & from stretchers.

Let's convert this to a slow release morphine dosing schedule with an appropriate breakthrough dose. The dose works out to be 50 mg every 12 hours or 75 mg every 8 hours. MS Contin is available in 15, 30, 60 and 75 mg tabs. The team might decide to use 45 mg every 12 hours as a starting point with immediate release morphine (MSIR) 10 – 20 mg q 4 hours as needed for breakthrough pain.

There may be times when a patient's situation does not allow for oral dosing. Converting morphine from the oral route to the parenteral route is done by taking the total 24 hour oral dose and dividing by three, then convert that 24 hour parenteral dose into an hourly amount by dividing it by 24. For more information, see [The Narcotic Equivalency Guidelines](#) and the [equianalgesic drug conversion calculator](#).

*Converting
from an
oral to a
parenteral
dose*

Let's use Gloria's case again as an example. Take her daily dose of 150 mg of oral morphine and divide by 3, which equals 50 mg of parenteral morphine per day. Now divide 50 mg of parenteral morphine by 24 to get the hourly amount of parenteral morphine needed to equal Gloria's daily dose of oral morphine. The hourly amount is about 2 mg per hour.

Important Pain Management Messages to Remember

- ✓ Keep the patient in control.
- ✓ Focus on both the patient and their loved ones.
- ✓ Always attempt to prevent pain.
- ✓ Use the oral route whenever possible.
- ✓ Use 'around the clock' dosing with appropriate short acting breakthrough medication prn.
- ✓ Titrate dose individually – as pain changes dosage must be adjusted to match pain intensity. [The Narcotic Equivalency Guidelines](#)
- ✓ Consider adjuvant medications as appropriate to pain assessment
- ✓ Always implement a bowel regimen when opioids are initiated – as in pain management, the aim of bowel care should be to prevent rather than to treat the problem.
- ✓ Assess for other unwanted side effects, especially when opioids are initiated. Nausea, vomiting, drowsiness, confusion, urinary retention.
- ✓ Use co-analgesics, when appropriate (e.g. corticosteroids, anti-emetics, anti-psychotics, anti-depressants)



- ✓ Use complementary therapies as appropriate (e.g. massage, TENS, imagery)

STEP III - DEVELOP INTERVENTIONS AND MEASURE CHANGE

"Never doubt that a small group of thoughtful, committed citizens can change the world: indeed, it's the only thing that ever does."

~Margaret Mead

Interventions are small changes in the care process that are intended to contribute to an overall goal and that can be measured. The interventions you choose to implement will depend on the results of your audit and the goal developed by the quality improvement team.

Returning to the visual depiction of the improvement model, each intervention is developed with three fundamental questions in mind:

1. What are we trying to accomplish with this intervention?
2. What change can we make that will result in improvement?
3. How will we know that a change is an improvement?



STEP III



Key Item - the kinds of interventions that are appropriate and measurable for pain management

Gloria's experience of pain and her pain treatment plan (discussed in the case study above) can offer useful suggestions for interventions. Two other examples of interventions appropriate for pain management are to make pain the fifth vital sign in your facility and to conduct a patient/family education session regarding managing pain.

In clinical settings, a patient flow sheet is maintained to regularly record blood pressure, temperature, pulse and respiration. For the dying person, pain and/or other bothersome symptoms are the most important "vital symptoms" to be monitored on a routine basis. Just as marked changes in vital signs signify an emergency, severe distressing pain is *always* an emergency.



Clinicians appreciate and understand the common language associated with vital signs. Measurements outside of accepted norms trigger appropriate action steps. Adding pain as the fifth vital sign provides clinicians an opportunity to develop a common "pain language" that can be equally appreciated and understood. Routinely measuring pain intensity and level of distress allows clinicians to communicate specific pain related information that the patient is experiencing, along with other indicators of the patient's well-being.

Which aspects of Gloria's pain treatment plan could give rise to an intervention in your facility?

Making pain the 5th vital sign



Another example of a potential intervention is to conduct a pain education session with patients and families. Patients and their loved ones must understand their role in pain management if the goals of treatment are to be achieved. Most patients and their caregivers have questions and concerns about pain and its management. A patient and family education session could teach

Pain education for patients and family members

patients and caregivers to assess pain, to monitor the effectiveness of the medicine, and what to do if the medicine does not work.



How does a health care facility or institution decide that making pain the fifth vital sign or starting an education program will accomplish its pain management goal?

How does a facility go about implementing such an intervention?

What are the best ways to measure any changes in pain management that occur?

These questions must be answered before any intervention begins, and Section B of this chapter will discuss the quality improvement tools that help in answering them.

More ideas for improving pain management

Identify Leverage Points – Look for appropriate leverage points within your system to garner the support needed to advance an important and creative initiative. Take advantage of other initiatives within your system that may share some common objectives. For example, bring the newly released [JCAHO pain standards](#).



Maximize Information Technology - Using data can be very effective in motivating change and can also uncover areas where a change in thinking is warranted. Look for ways to maximize the capabilities of your system's information technology to gather, record and disseminate important facts about pain management practice and to identify learning needs.



Get the Community Interested – Survey consumers about their beliefs and knowledge about effective pain management. Audiences can be found through senior centers, malls, and various group and organizational meetings. Consumers often have many questions, such as “Should I only take medicine or other treatments when I have pain? Will I become hooked or addicted to pain medication? If I take too much medicine, will it stop working? If I complain too much, am I not being a good patient?”



SECTION B – DYSPNEA AMELIORATION

In this section, we follow the experience of an inpatient hospice unit as it implements the quality improvement model and utilizes the quality improvement tools to ameliorate dyspnea among persons dying in its inpatient unit.

STEP I - CONDUCT AN AUDIT



Key Item - questions the TOOLKIT After-death Bereaved Family Member Interview asks about dyspnea

1. (In that last week/ While under care of the hospital/hospice/nursing home), did (he/she) have trouble breathing?
 YES NO DON'T KNOW
2. How much help in dealing with (his/her) breathing did [PATIENT] receive - less than was needed, or about the right amount?
 LESS THAN WAS NEEDED RIGHT AMOUNT
3. (In the last week of [PATIENT'S] life/ While [PATIENT] was under care of the hospital/hospice/nursing home), how well did those taking care of [PATIENT] make sure (his/her) symptoms were controlled to a degree that was acceptable to (him/her)?
[0 1 2 3 4 5 6 7 8 9 10]



STEP I

Audit Results

Overall, the unit's scores look good, but they are concerned about this finding:

24% of patient's family members felt that their loved ones received less help than was needed in dealing with dyspnea.

With this finding, the unit has identified an important *opportunity to improve* its care for dying patients.

OPPORTUNITY TO IMPROVE → UNRELIEVED DYSPNEA

STEP II - ENGAGE STAKEHOLDERS & DEFINE A GOAL

Once the audit has identified an opportunity to improve, it is time to engage the key players in the hospice unit and to set an overall goal of improvement.



STEP II

6B.1 Engaging Stakeholders

In order to engage stakeholders, members of the hospice unit draw on two skill areas: *current knowledge* about quality care for dyspnea and effective *presentation techniques*.

To organize their knowledge about caring for dyspnea, they address three key items.



6B.1a Key Item – the importance of dyspnea management

“...[Dyspnea] is a subjective sensation of difficulty in breathing, not necessarily related to exertion, that compels the individual to increase his ventilation or reduce his activity. Although subjective, its effect on function and other activities of living may be objectively observable.”

~ The Oxford Textbook of Palliative Medicine

Like pain, dyspnea is a subjective experience that should trigger an immediate response from the clinical team. Breathlessness can be an all consuming and terrifying experience that should be considered an end of life ‘medical emergency’ needing prompt assessment, intervention and follow up.

It is important to consider dyspnea and other distressing symptoms in the context of the [Total Pain](#) model described earlier in this chapter. As with pain, dyspnea impacts the psychological, physical and emotional well-being of individuals. The impact extends to the family as well. Dyspnea is especially disturbing for loved ones, who are often overwhelmed by feelings of panic and helplessness.

The prevalence of dyspnea is quite variable, but patients with lung cancer, chronic obstructive pulmonary disease, and end stage congestive heart failure often experience it.

*Like pain,
dyspnea is a
medical
emergency for
the patient
and the
family.*



6B.1b Key Item – expert advice about dyspnea management

As with pain, the causes of dyspnea are numerous and may not always be obvious to the health care provider. Therefore, it is important to complete a thorough assessment to identify the most likely cause and establish appropriate interventions.

*Breathlessness
is what the
patient says it
is.*

Assessing dyspnea

Your assessment should consider:

- ✓ severity of the dyspnea;
- ✓ presence of any pre-existing conditions-such as COPD, lung cancer and CHF;
- ✓ exacerbating factors such as anemia, ascites, severe anxiety; and
- ✓ confounding factors such as infection, pleural effusion, pulmonary emboli.



As with pain, it is important to develop consistent and effective tools to measure dyspnea. You might want to consider adding an assessment scale to the vital sign sheet that records not only the number of respirations per minute but also the patient's rating of their respiratory effort or his/her level of respiratory distress.

*Developing
assessment
tools*

Remember the possible causes of dyspnea

- | | |
|----------------------------|------------------------------|
| <i>B</i> ronchospasm | <i>A</i> nxiety |
| <i>R</i> ales | <i>I</i> nterpersonal issues |
| <i>E</i> ffusions | <i>R</i> eligious concerns |
| <i>A</i> irway obstruction | |
| <i>T</i> hick secretions | |
| <i>H</i> emoglobin low | |

Guiding principles for treatment of dyspnea

- ✓ Determine underlying cause and treat as appropriate for the patient's condition.
- ✓ Weigh the benefits and burdens of the intervention as it relates to the patient's overall quality of living both prior to and after the intervention. For example, a patient needs to fully appreciate the possible outcomes of tapping a pleural effusion, the potential for recurrence, and the discomfort associated with the procedure.
- ✓ Maintain a calming atmosphere during the management of a respiratory distress.

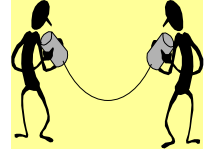


6B.1c Key Item – the basics of dyspnea management

Descriptions & clues

As with pain, patients describe dyspnea in many different ways. It is important to listen carefully to clues given by patients and families. Some common ways that patients describe dyspnea include the following:

- I can't catch my breath.*
- I feel like I am suffocating.*
- The room is closing in on me.*
- It feels like someone is sitting on my chest.*



These descriptions reinforce the urgency for seeking relief.

Important Dyspnea Management Messages to Remember

- ✓ Reassure the patient and their loved ones that you will treat the breathlessness seriously and seek to relieve it as quickly as possible.
- ✓ Utilize appropriate pharmacological intervention.
- ✓ Provide appropriate explanations about what is happening and how you will be treating it.
- ✓ Increase the circulation of air in the room with a fan or by opening a window. This is a very effective measure.
- ✓ Apply a cool cloth to the brow and the back of the neck.
- ✓ Reposition the patient to maximize lung capacity.
- ✓ Reduce activity in room and consider quiet music, relaxation or other techniques to distract the patient from their focus on breathing.
- ✓ Assist patient and family in identifying the interventions that are most effective. Review and rehearse these interventions as part of a contingency plan for relief of future episodes.
- ✓ Have contingency plans in place for patients at home, including appropriate medications and instructions on use.
- ✓ Encourage opportunities to discuss interpersonal issues that might contribute to distress.
- ✓ *Reassess, reassess, and reassess again!* The experience of dyspnea can be so frightening that it is often the reason patients return to the hospital, often in the middle of the night and/or after calling 911.



Dyspnea impacts the family, too.

Pharmacological interventions

Pharmacological interventions may be appropriate to augment the interventions listed above or when no treatable cause has been determined. Opioids are very effective in relieving the feeling of breathlessness.

The American Academy of Hospice & Palliative Medicine (AAHPM) guidelines for opioid therapy are below.

...to treat dyspnea, order the same opioids on the same schedule as those prescribed for pain and increase the dose by 30-50% every 4-12 hours until the patient is comfortable.

IMPORTANT:
These are guidelines only!
Each patient's medical condition must be evaluated by his/her physician.

Mild dyspnea- For mild dyspnea in patients taking no pain medications, begin with low doses of an opioid such as one of the following:

<i>Drug</i>	<i>Dose</i>	<i>Frequency</i>	<i>Breakthrough</i>
Hydrocodone (Hycodan or Lortab)	5 mg	Q 4 hours	5 mg q 2 hours
Acetaminophen with codeine (Tylenol #3)	30 mg	Q 4 hours	30 mg q 2 hours

For mild dyspnea...

Severe dyspnea or dyspnea being treated with weak opioids- For patients with severe dyspnea who are taking no pain medication or for patients who are taking weak opioids such as codeine, hydrocodone, or propoxyphene, consider switching to a strong oral opioid such as one of those below.

<i>Drug</i>	<i>Dose</i>	<i>Frequency</i>	<i>Breakthrough</i>
Oxycodone	3 – 10 mg	Q 4 hours	and prn
Morphine syrup	3 – 10 mg	Q 4 hours	and prn
Hydromorphone (Dilaudid)	0.5 – 2 mg	Q 4 hours	and prn

For severe dyspnea...

Severe dyspnea being treated with strong opioids- For patients already taking strong opioids and for those with dyspnea and high levels of anxiety, try increasing the above doses by 50% every 4-12 hours until the patient experiences relief.

Patients and families often place importance on the use of oxygen for breathlessness. In fact, opioids are quite effective as a first line intervention- so effective that oxygen may not be needed. If used, oxygen should be delivered via nasal prongs instead of a facemask, which can feel confining and smothering.

Should oxygen be used?

6B.1d Presenting the Data

In addition to the general guidelines for presentation discussed in Chapter 5 of this Guide, consider these tips-- *along with your own brainstorming!*

- Increase awareness about the opportunity to improve how dyspnea is currently assessed and managed *by creating a safe environment to examine your own practice.*
- Use both qualitative and quantitative data. Numbers are essential but can be rather bland; words and stories can be very motivating.
- Compare what you know about successful dyspnea management with a real patient scenario – *an enlightening exercise that can have surprising results.*
- Do additional data collection and analysis to add to your evidence base. For example, gather baseline data to determine the current number of episodes of severe dyspnea that last longer than 4 hours.

Creating a safe environment in which to examine your facility's practice is essential for engaging stakeholders.

6B.2 Defining an Overall Goal

Once stakeholders are “on board” with the need for a quality improvement effort, the quality improvement team turns its attention to two fundamental guiding questions.

What is our overall goal? It is essential to clearly state an overall goal so that everyone in the unit knows the purpose of the interventions.

“Our goal is to ameliorate dyspnea in persons dying at our inpatient hospice unit.”



How will we know when this goal is achieved? Defining a specific target allows everyone in the unit to know when success has been achieved.

“We will know this by examining the last 48 hours of life of 5 patients/week in regards to the number of episodes of severe dyspnea (i.e. >4 on scale of 10) and whether they had episodes that lasted longer than 4 hours.”

STEP III - DEVELOP INTERVENTIONS AND MEASURE CHANGE



STEP III

“Our goal is to improve (X) and we will know this by a change in (Y). For our first PDCA Cycle, we will improve (X) process of care by specifically addressing (Z).”

As with defining an overall goal, it is essential to the success of each small intervention to keep in mind the fundamental guiding questions for improvement.

What are we trying to accomplish with this intervention?

How will we know that a change is an improvement?

What change(s) can be made that will result in improvement?

6B.3 Using the Tools of Quality Improvement



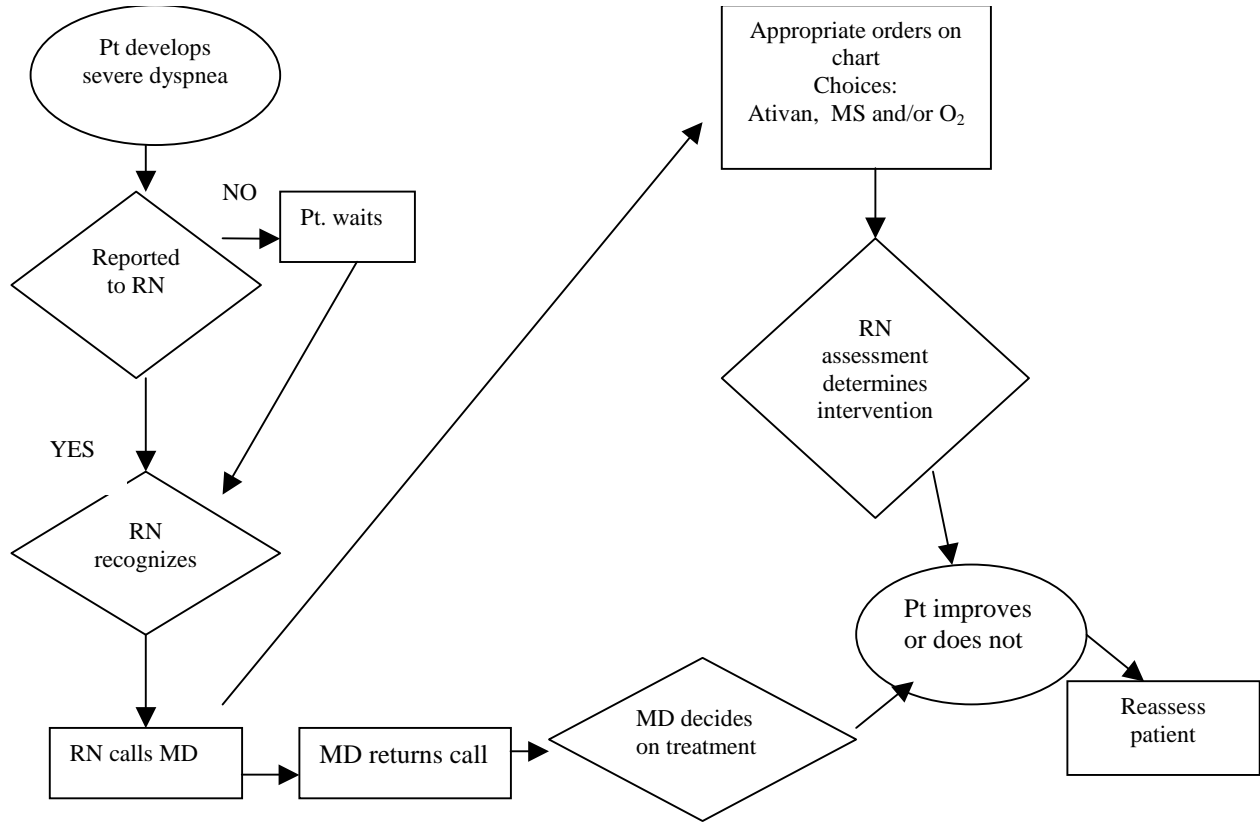
The quality improvement team decides to utilize various quality improvement tools to assist in developing their first intervention and answering these fundamental guiding questions.

6B.3a Examining the care process and influential factors

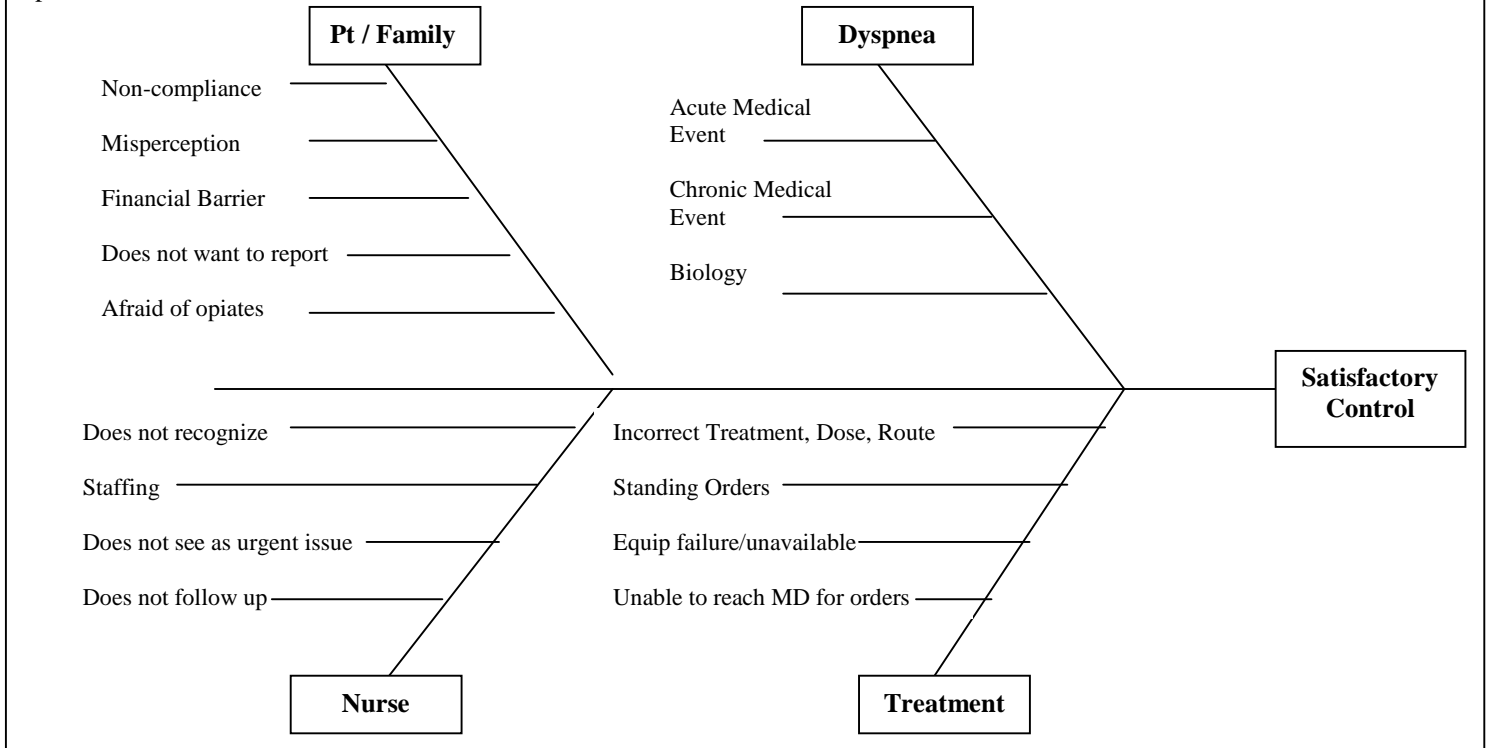
The quality improvement team realizes that, in order to identify a change that will make an improvement, they must understand

- the unit's current care process for treating dyspnea (Process Flow Chart), and
- the factors that influence dyspnea management (Ishikawa Cause and Effect Diagram).

Process Flow Chart – This tool shows the main steps and eventual outputs of a process. Involve other people who are familiar with the process. Look for steps that are inefficient or unnecessary. Refrain from trying to change or fix a piece of the process until it is fully diagrammed and analyzed.



Ishikawa Cause and Effect Diagram – aka The Fishbone Diagram – This diagram is named for the founding father of quality management, Karou Ishikawa. It is an aid to identify factors that contribute to a particular outcome. Be sure to define the desired outcome first. Then, identify the main factors affecting the outcome and show these as the main branches of the diagram. List specific factors under each branch until all relevant factors are included.



With the insights gained from the Process Flow Chart and the Ishikawa Cause and Effect Diagram, the quality improvement team plans the first improvement cycle based on the guiding questions for improvement.

What are we trying to accomplish with this cycle?

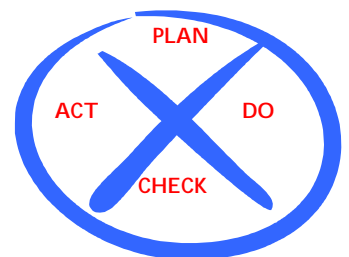
"We'll implement 'dyspnea as a fifth vital sign' and it will be completed every shift on 90% of the patients."

How will we know that a change is an improvement?

"An increasing number of patient charts will include standardized dyspnea assessment data."

What change(s) can be made that will result in improvement?

"We'll create a uniform dyspnea assessment form for staff to use."



6B.3b Documenting Activities and Tracking Progress

The PDCA Worksheet is a way to document the activities within the cycle and show progression from one cycle to the next. Tracking your progress helps to build organization support and acknowledgment of your improvement accomplishments.

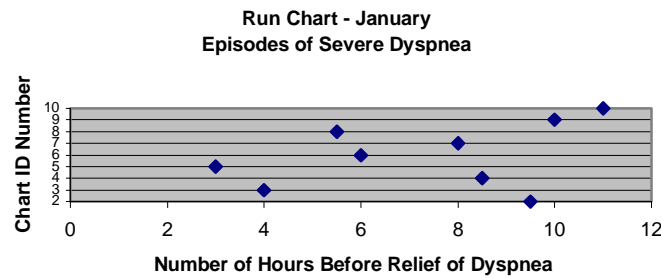
PDCA CYCLE WORKSHEET

Date begun: January 1, 2000

Date finished:

PLAN: Objective of cycle, questions and predictions, details of process, data collection

- **Baseline Data** – In January the QI Team examines charts of all patients on the unit to determine the number of episodes of severe dyspnea that were not relieved by the end of an 8 hour shift.



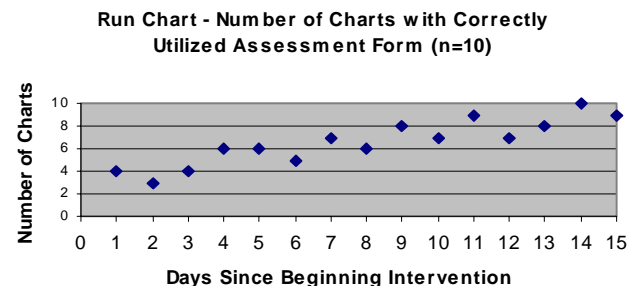
- **Stating The Aim** - “What do we want to promise our patients and their families about dyspnea management?” Remember the overall aim of the QI Team is to ameliorate dyspnea in persons dying on their inpatient unit. The above Run Chart indicates that 50% of the episodes of severe dyspnea that occurred in January were unrelieved at the end of an 8 hour shift.
“We’ll implement ‘dyspnea as a fifth vital sign’ & it will be completed every shift on 90% of the patients.”

DO: Transforming Learning into Action

- **Uniform Dyspnea Assessment Form** - The QI Team uses the knowledge gained from brainstorming sessions, process flow and Ishikawa diagrams and the above baseline data analysis to create a uniform dyspnea assessment form that will be completed on every shift.
- **Instruct Staff and Document Utilization of Form** – Be sure staff have knowledge and skills needed to understand how to use new form and conduct periodic chart audits to monitor utilization patterns, document and respond to issues quickly.

CHECK: Monitor the intervention

- Use Run Charts as visual displays of utilization patterns.



ACT: What changes or adjustments need to be made. What is the next cycle to consider?

The QI Team sees a positive trend in correct utilization of the dyspnea assessment form but will continue to monitor. In the meantime, the QI Team decides to do a small scale study comparing the family’s assessment of the severity of their loved one’s dyspnea.

6B.4 Using Concurrent PDCA Cycles

CQI is a long-term process that must include a commitment to rapid-cycle interventions that your team can implement, measure and celebrate by “next Tuesday”.

It is unlikely that one intervention alone will be successful in reaching the overall improvement goal. This is why the “Act” portion of the PDCA cycle asks the quality improvement team to suggest next cycles to consider.

As part of their first PDCA cycle, the hospice unit’s quality improvement team creates a list of additional ideas to improve the management of dyspnea on the inpatient unit.

- *“We need to improve the dyspnea assessment form.”*
- *“We need standards of care for dyspnea management and education on using them.”*
- *“Standing orders and clinical protocols for dyspnea management would help.”*
- *“Use Run Charts to plot ongoing observations of episodes of severe dyspnea over time.”*

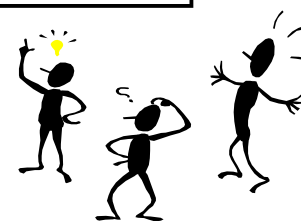


The QI Team decides to establish task forces that will dedicate their time to a specific intervention and the associated PDCA Cycles needed to reach the overall goal of ameliorating dyspnea in persons dying on the inpatient hospice unit.

TASK FORCES FOR PLANNED INTERVENTIONS

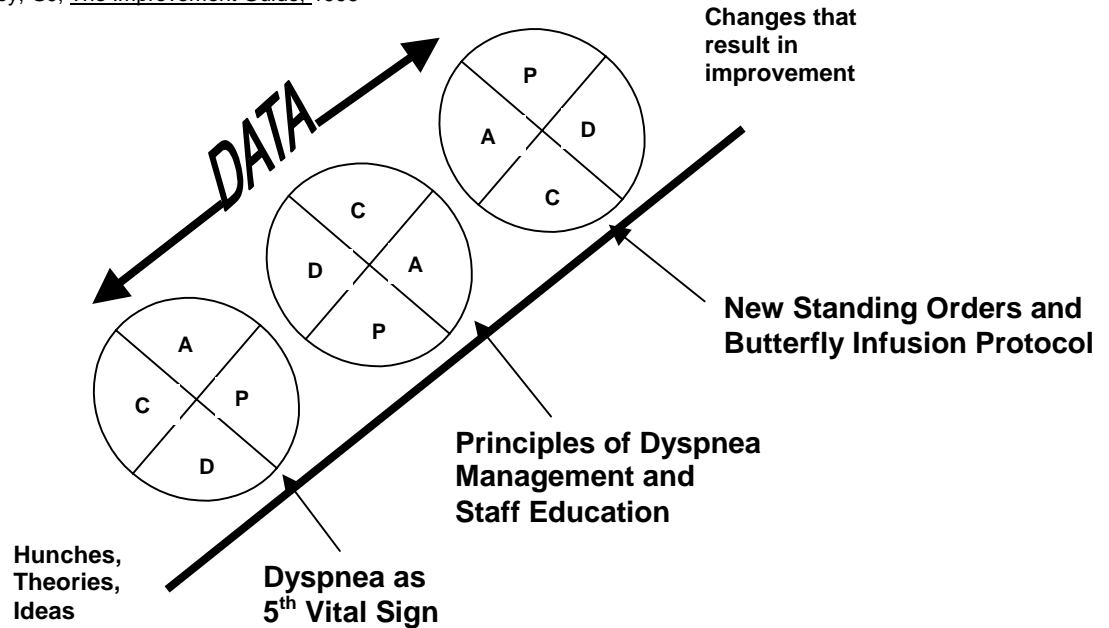
- ***Dyspnea Assessment Tool*** – Uniform assessment of all patients utilizing Dyspnea Self Assessment Tool and Dyspnea Assessment Tool for persons unable to rate their own dyspnea. Assessment will be charted on daily flow sheet with other vital signs.
- ***Principles of Dyspnea Management & Staff Education*** – Develop principles and standards of care for the management of dyspnea as medical emergency in dying patients. Establish methods for educating staff and monitoring competencies.
- ***Standing Orders and Equipment Protocols*** – Work with pharmacy and physicians on new standing orders for pharmacological management of dyspnea. Create Butterfly Needle Protocol and CADD Pump protocol for continuous infusion of medication.
- ***Data Management*** – Establish to monitor the collection, analysis and presentation of data associated with the overall target of improvement to ameliorate dyspnea on the inpatient hospice unit.

Often no one change or sequence of changes is responsible for the overall improvement. In general, increased frequency and number of cycles results in increased improvement.



Model for Improvement and the Use of Multiple PDCA Cycles

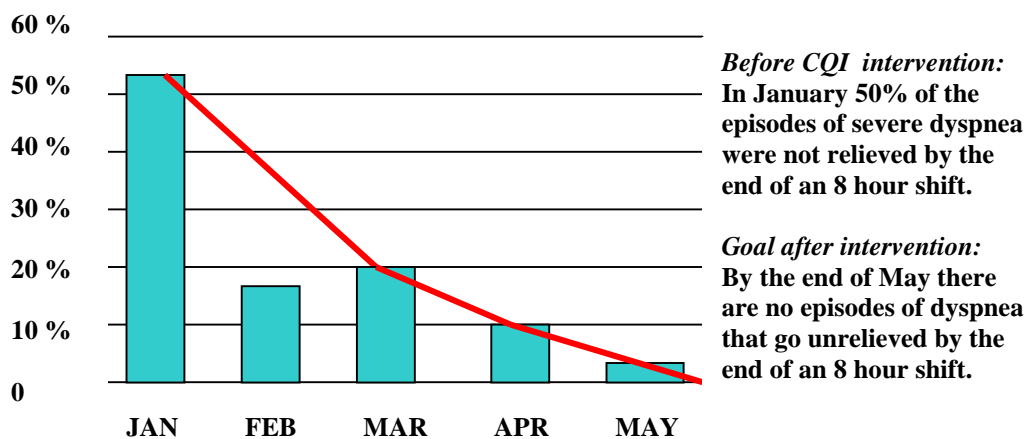
SOURCE: Langley, GJ, *The Improvement Guide*, 1996



The QI Team completes a number of sequential small scale, rapid PDCA Cycles during which they developed, tested and implemented changes. Throughout each cycle data was collected and analyzed. Data collection continues over time.

Let's look at the progression of data collected over time that measures the number of episodes of severe dyspnea that go unrelieved in an 8 hour shift.

Measuring Change The QI Team is thrilled to share the May data with the staff. They have achieved the goal of their first PDCA Cycle to measure respiratory comfort as a 5th vital sign. In so doing, the frequency of episodes of severe dyspnea in an 8 hour period went from 50% in January to zero in May!



ONGOING ROUTINE CHART AUDIT now examines the last 48 hours of life of 5 patients each week in regards to the number of episodes of severe dyspnea (i.e. greater than 4 on a scale of 10) and whether they had severe dyspnea that lasted longer than 4 hours.

6B.5 Sustaining Change

Effective and sustained improvement requires:

- creatively developed, tested and implemented changes,
- establishing a system of improvement that provides a framework for leading change as a high priority, and
- continued cycles of measuring and monitoring.

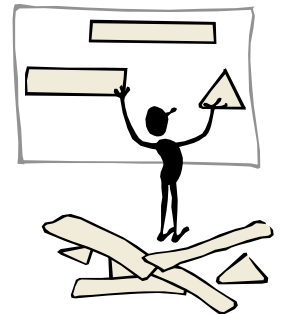
Multiple Measures – It is possible that a combination of interventions will influence the improvement results for ameliorating dyspnea on the hospice inpatient unit. Therefore it is important to simultaneously monitor all the interventions in order to assess their impact on the identified change. For this reason it is helpful not to have too many interventions at one time!

Examples of additional measurements include:

- Education Intervention – conduct pre and post tests
- Nursing Competencies – incorporate the competency standards into existing job performance measurement tool
- Standing Orders – Measure physician compliance with instituting standing orders
- Dyspnea Assessment – Conduct periodic measurement of patient/surrogate report and compare to actual assessed report completed by staff

Tips for Managing Improvement Efforts

1. Stay with project until concept for change is established.
2. Test changes on a scale small enough to minimize the risk of developing and implementing interventions that foster innovation.
3. Stay aware of the detail work that is needed to make sure the gains and improvements are held.
4. Ensure that resources needed to sustain the change are given the appropriate priority and attention.
5. Study the changes to learn about the fundamental causes of problems in the system or organization.



Key activities for leading sustained change

Establish and communicate the purpose of the organization.

View the organization as a system.

Design and manage a system for gathering information for improvement.

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Chapter 6 Appendix A

Pain Assessment Tools

Initial Pain Assessment Tool

Date: _____

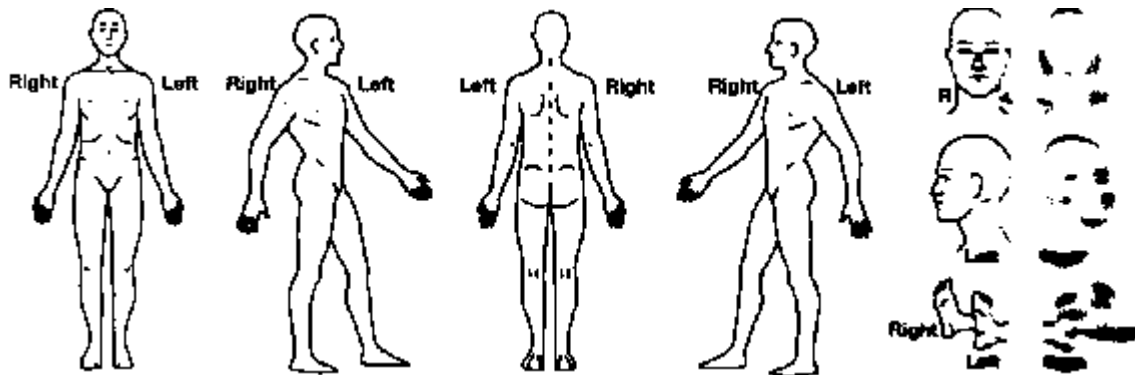
Patient's name: _____

Age: _____

Room: _____

Diagnosis: _____ Physician: _____ Nurse
: _____

I. Location: Patient or nurse marks drawing



II. Intensity: Patient rates the pain. Scale used: _____

Present: _____

Worst pain gets: _____

Best pain gets: _____

Acceptable level of pain: _____

III. Quality: (Use patient's own words, e.g., prick, ache, burn, throb, pull, sharp)

IV. Onset, duration, variations, rhythms: _____

V. **Manner of expressing pain:** _____

VI. **What relieves the pain?** _____

VII. **What causes or increases the pain?** _____

VIII. **Effects of pain:** (Note decreased function, decreased quality of life.)

Accompanying symptoms (e.g., nausea) _____

Sleep _____

Appetite _____

Physical activity _____

Relationship with others (e.g., irritability) _____

Emotions (e.g., anger, suicidal, crying) _____

Concentration _____

Other _____

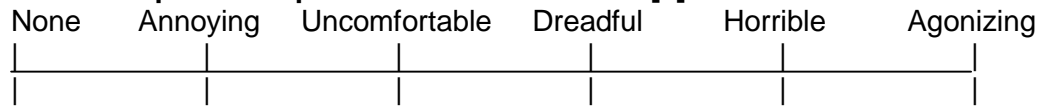
IX. **Other comments:** _____

X. **Plan:** _____

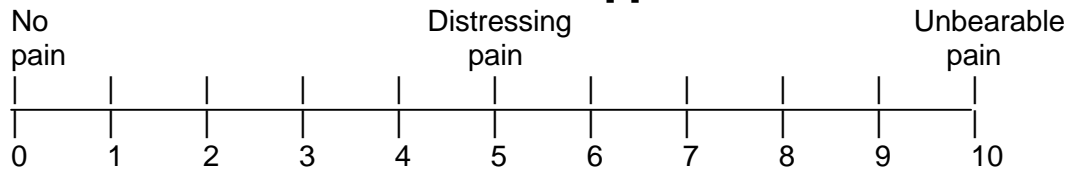
Note: May be duplicated and used in clinical practice
Source: [McCaffery and Beebe, 1989](#). Used with permission.

Pain Scales

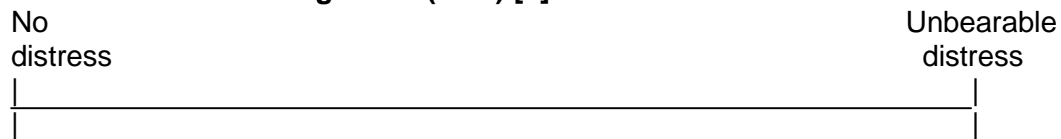
Simple Descriptive Pain Distress Scale [1]



0-10 Numeric Pain Distress Scale [1]



Visual Analog Scale (VAS) [2]

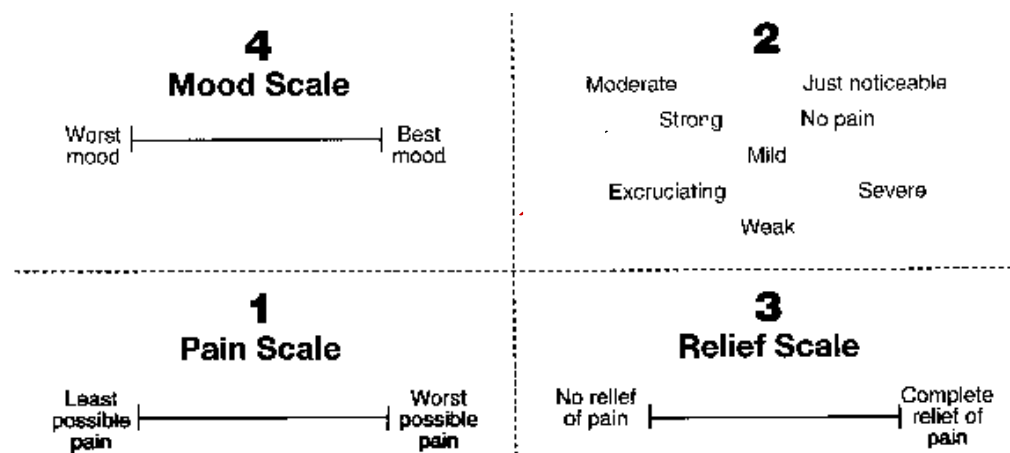


[1] If used as a graphic rating scale, a 10 cm baseline is recommended

[2] A 10-cm baseline is recommended for BAS scales.

Source: Acute Pain Management Guideline Panel, 1992.

Memorial Pain Assessment Card



Note: Card is folded along broken line so that each measure is presented to the patient separately in the numbered order.

Source: Fishman, Pasternak, Wallenstein, et al., 1987. Used with permission.

Faces Pain Scale



Source: Bieri D, Reeve R, Champion GD, Addicoat L, Ziegler JB. (1990) The Faces Pain Scale for the self-assessment of the severity of pain experienced by children: development, initial validation, preliminary investigation for ratio scale properties. *Pain*. 41: 139-150.

The Cancer Pain Algorithm Flow Sheet

Pain Character -- Key Words	
Mixed	
Nociceptive	Neuropathic
aching	shooting
tender	stabbing
throbbing	burning/electrical

Pain Scale										
0	1	2	3	4	5	6	7	8	9	10
No					Moderate					Worst
Pain					Pain					Pain

Date														
<u>Location</u>														
1.														
2.														
new site?														
<u>Character</u>														
Noci-Neuro-Mixed														
<u>Score (0-10)</u>	w	w	w	w	w	w	w	w	w	w	w	w	w	w
worst														
usual	u	u	u	u	u	u	u	u	u	u	u	u	u	u

Side Effects	Y = yes	N = no												
N/V														
Constipation														
Sedation														
NSAID GI Distress														
Delirium														
Myoclonus														
Dry Mouth														

Reassessment Due														

Plan: _____

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Chapter 6 Appendix B

Narcotic Equivalency Guidelines

Drug	Equianalgesic dose (mg)	Relative potency vs parenteral morphine	Approximate duration of action (hrs)
Morphine			
Parenteral	10 mg	1.00	4 hours
Oral	30 mg*	0.33*	4 hours
Hydromorphone			
Parenteral	1.5 mg	6.67	4 hours
Oral	7.5 mg	1.33	4 hours
Codeine			
Parenteral	130 mg	0.08	4 hours
Oral	200 mg	0.05	4 hours
Oxycodone			
Oral	30 mg	0.33	4 hours
Levorphanol			
Parenteral	2 mg	5.00	5 hours
Oral	4 mg	2.50	5 hours
Meperidin			
Parenteral	75 mg	0.13	3 hours
Oral	300 mg	0.03	4 hours
Methadone			
Parenteral	10 mg	1.00	5.5 hours
Oral	20 mg	0.50	5.5 hours
*Single dose studies suggest the equianalgesic dose for oral to parenteral morphine is 60:10, but clinical experience has shown that when administered chronically, a 2 or 3:1 ratio is more applicable. SOURCE: Patt, R.B. <i>Cancer Pain</i> , 1993, p. 567			

Adapted from Grossman, S.A. & Sheidler, V.R. *World Health forum*, 8(525-529), 1987