Reference Notes for Palliative Care Consultation

Robert F Johnson MD, MEd

The interprofessional health care specialty of palliative care employs holistic evaluation and person-centered communication in the care of people with life-threatening illness. Palliative care clinicians are consulted for one or more of the following reasons:

- Symptom assessment and management
- Assistance with making difficult decisions about continued use or withdrawal of life-sustaining interventions
- Communication for planning the most appropriate care setting to meet person/family goals for end-of-life care
- Assessment of suitability and eligibility for hospice care

This resource is a compilation of previously published documents and tools useful to palliative care clinicians in preparing for and conduction these consultations. In addition, it can be a reference for students and clinical trainees doing course work, analyzing case studies, or simulating clinical communication scenarios. The materials are indexed for easy retrieval, referenced to acknowledge sources and allow further exploration, and organized into the following categories:

- Palliative Care Definitions/Domains/Dimensions
- Communication
- Symptom Assessment
- Functional Status Evaluation
- Prognostication
- End-of-Life Assessment and Management
- Symptom Management
- Hospice Eligibility Criteria
- Withholding and Withdrawing Life-Sustaining Interventions
- Pediatric End-of-Life Issues
Reference Notes for Palliative Care Consultation
Compiled by Robert F Johnson MD

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Domains/Dimensions
- EPEC Dimensions of Whole Patient Assessment
- Perspectives on a Suffering Person
- NCP-NQF Domains
- Palliative Care for Advanced Disease (PCAD)

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- SPIKES, NURSE, VALUE, ASCEND, UFO-UFO
- Communication Seven Steps/Decision-Making Communication Tool

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Selected Abbreviations
ACEI = angiotensin-converting enzyme inhibitor
ADL = Activities of Daily Living
ALS = Amyotrophic Lateral Sclerosis
BIS = Burden of Illness Score
Ca++ = Calcium level
CCI = Charlson Comorbidity Index
CD4 = cluster of differentiation 4 (category of white blood cell – lymphocyte)
CDT = Clock-Drawing Test
CHF = Congestive Heart Failure
CLL = Chronic Lymphocytic Leukemia
CML = Chronic Myelocytic Leukemia
CNS = Central Nervous System
CPR = cardiopulmonary resuscitation
COPD = Chronic Obstructive Pulmonary Disease
DIC = Disseminated Intravascular Coagulation
SBP = Spontaneous Bacterial Peritonitis
SDM = Shared Decision-Making
SCCM = Society of Critical Care Medicine
SCLC = Small Cell Lung Cancer
SNRI = Serotonin Norepinephrine Re-Uptake Inhibitor
SQ = subcutaneous
SSRI = Selective Serotonin Re-Uptake Inhibitor
TCA = Tri-Cyclic Anti-Depressant
UDT = urine drug/toxin screen
WBC = White Blood Cell count
WWLST = Withholding/Withdrawing Life-Sustaining Treatment
WHO Definition of Palliative Care

Palliative care is an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual. Palliative care:
- provides relief from pain and other distressing symptoms;
- affirms life and regards dying as a normal process;
- intends neither to hasten or postpone death;
- integrates the psychological and spiritual aspects of patient care;
- offers a support system to help patients live as actively as possible until death;
- offers a support system to help the family cope during the patients illness and in their own bereavement;
- uses a team approach to address the needs of patients and their families, including bereavement counselling, if indicated;
- will enhance quality of life, and may also positively influence the course of illness;
- is applicable early in the course of illness, in conjunction with other therapies that are intended to prolong life, such as chemotherapy or radiation therapy, and includes those investigations needed to better understand and manage distressing clinical complications.

WHO Definition of Palliative Care for Children

Palliative care for children represents a special, albeit closely related field to adult palliative care. WHO’s definition of palliative care appropriate for children and their families is as follows; the principles apply to other pediatric chronic disorders (WHO; 1998a):
- Palliative care for children is the active total care of the child's body, mind and spirit, and also involves giving support to the family.
- It begins when illness is diagnosed, and continues regardless of whether or not a child receives treatment directed at the disease.
- Health providers must evaluate and alleviate a child's physical, psychological, and social distress.
- Effective palliative care requires a broad multidisciplinary approach that includes the family and makes use of available community resources; it can be successfully implemented even if resources are limited.
- It can be provided in tertiary care facilities, in community health centers and even in children's homes.

Definition of palliative care (English): European Association for Palliative care

Palliative care is the active, total care of the patients whose disease is not responsive to curative treatment. Control of pain, of other symptoms, and of social, psychological and spiritual problems is paramount.

Palliative care is interdisciplinary in its approach and encompasses the patient, the family and the community in its scope. In a sense, palliative care is to offer the most basic concept of care – that of providing for the needs of the patient wherever he or she is cared for, either at home or in the hospital.

Palliative care affirms life and regards dying as a normal process; it neither hastens nor postpones death. It sets out to preserve the best possible quality of life until death.
Palliative care focuses on improving a patient’s quality of life by managing pain and other distressing symptoms of a serious illness. Palliative care should be provided along with other medical treatments. Hospice is palliative care for patients in their last year of life. Hospice care can be provided in patients’ homes, hospice centers, hospitals, long-term care facilities, or wherever a patient resides. Physicians who specialize in hospice and palliative medicine work with other doctors and healthcare professionals; listen to patients and align their treatments with what's important to them; and help families navigate the complex healthcare system.
Nine Dimensions of Whole Patient Assessment for Palliative Care

1. Illness, Treatment – Summary
2. Physical
3. Psychological
4. Decision-Making
5. Communication
6. Social
7. Spiritual
8. Practical
9. Anticipatory Planning

Perspectives on a Suffering Person

1. Disease – what a person has
2. Dimension – what a person is
3. Behavior – what a person does
4. Life Status – what a person wants

National Consensus Project for Quality Palliative Care (NCF) – National Quality Forum (NQF) Domains:

1. Structure/Process
2. Physical
3. Psychologic/Psychiatric
4. Social
5. Spiritual/Existential/Religious
6. Cultural
7. Care of Imminently Dying
8. Ethical/Legal

NCF: Palliative care means patient- and family-centered care that optimizes QOL by anticipating, preventing, and treating suffering. Palliative care throughout the continuum of illness involves addressing physical, emotional, emotional, social, and spiritual needs – and to facilitate patient autonomy, access to information, and choice.
PCAD Introduction

Purpose of PCAD:

The Goals of PCAD are to:

- Respect patient autonomy, values, and decisions
- Continually clarify the goals of care
- Minimize symptom distress at the end of life
- Optimize appropriate supportive interventions and consultations
- Reduce unnecessary interventions
- Support families by coordinating services
- Eliminate unnecessary regulations
- Provide bereavement services for families and staff
- Facilitate the transition to alternative care settings, such as hospice, when appropriate

PCAD consists of three components (forms are available in .pdf format):

- PCAD Care Path – the interdisciplinary plan of care
- PCAD Daily Patient Care Flowsheet – an interdisciplinary documentation tool for daily assessments and interventions
- PCAD Healthcare Provider/MD-Order Sheet – a documentation tool and suggestions for symptom control approaches

Process for utilization of PCAD Pathway (See Flowchart below):

**Step 1: Patient Identification**
Identification of a patient that is likely to die during this hospitalization (i.e., likely to die within minutes to days) by any staff member. Any staff member or others listed may suggest a patient for PCAD.
Step 2: Interdisciplinary Assessment
Interdisciplinary assessment of the patient for PCAD and discussion with the primary healthcare provider – The unit leadership assesses the appropriateness of the patient for PCAD and initiates an order for PCAD with the primary healthcare provider.

Step 3: Provider Clarification
Clarification of goals of care with the patient/family by the primary healthcare provider – The primary healthcare provider clarifies the goals of care with the patient and/or family and orders PCAD if end-of-life supportive care is the primary goal of care.

Step 4: Implementation
The primary healthcare provider orders PCAD using the PCAD Provider Order Sheet and rewrites the orders for the patient. Nurses complete the demographic information on the PCAD Pathway and initiate a PCAD Daily Patient Care Flowsheet.

Step 5: Discharge
The patient is discharged to an alternative care setting or dies on unit. A family bereavement policy is initiated (e.g., condolence card and educational materials sent) and a staff debriefing session is conducted.
Flowchart of Palliative Care for Advanced Disease (PCAD) Pathway

Interdisciplinary Assessment
Discussion with Primary Care Provider re: Appropriateness of PCAD

Clarification of Goals of Care with Patient/Family

Order PCAD
- Provider Order Sheet for PCAD
- Care Path for PCAD
- Flowsheet for PCAD

Discharge from PCAD due to patient status improvement

Patient Death
Family Bereavement
Staff Debriefing

Hospital Discharge to
- Hospice
- Home Care
- Residential Facility
Brief Consultation Outline

Name/Service, Attending, Patient Name/#, Requesting/Reason/Date

Palliative Care Assessment:
  Introduction:  Age, Gender, Location, Adm Date, 1° Disease, CC
  Background:  Social (Family, Work, Live)
               Psych (prior dx, coping, substances)
               Spirit (religion, existential)
  PMH:  Med, Surg, Allergies, incoming Meds
  1°Disease:  Dx, Rx, current Status, Adv Directive, Code Status
  Symptoms:  Describe, Assess
               Pain
               Fatigue
               Sedation, Drowsiness
               Sleep Disturbance
               Appetite, Dysphagia, Wt Loss
               N/V, Constipation, Diarrhea
               Incontinence
               Itch
               Depression, Anxiety
               Hallucination, Myoclonus, Seizure
  Exam:  VS
         Cachexia, Wt Loss, Overt Manifestation of 1° Disease
         Cognition/Delerium
         Mouth, Nodes, Chest, Heart, Abd, Skin, Extremities, Neuro
         Describe Painful Locations
  Other Info:  Relevant Labs, Imaging, Consults
  Impressions:  Palliative Care Diagnoses
  Assessment:  Analysis of sx and/or perspective on communication/decision-making
  Recommend/Plan

Assessment in Palliative Medicine – Outline

Patient
  Who is patient? – social context
  What is wrong? – illness, where in course of illness
  Is patient “clear-headed” – What does patient understand?
  What are Goals of Care?
    Prolong survival
    Optimize function
    Optimized comfort
  What are consequences – How are you coping?
Physical/psychological/social/existential

What are deeper thoughts/future problems

Family

Who is family? – social context
What is physical/psychological well-being of family?
Coping?
What are deeper thoughts/future problems/other losses in past?

HCP

Who is involved?
？expertise/experience/understanding of illness

Care Plan

Medical condition/Goals of care
Patient/family issues
  Physical
  Psychological
  Spiritual/existential
  Social
  Communication/decision-making
  Understanding
HCP issues
  Staffing
  Training
  Resources
  Emotional coping
Coping assessment
  Patient
  Family
  HCP
Contingency planning
# Patient-Centered Communication (PCC):

**Goal is Shared Decision-Making (SDM)**

## Elements:

### Setting

**Assess P/F Perspective**

(P/F=Patient/Family)

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<th>Strategies</th>
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<td>Condition</td>
<td>Active listening</td>
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<tr>
<td>Implication</td>
<td>“Tell-Me-More”</td>
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<tr>
<td>Values/Goals/Preferences</td>
<td>“Most Important”</td>
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<td>Information/Decision Style</td>
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### Exchange Information

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<th>Correlate to V/G/P</th>
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<td>“Ask-Tell-Ask”</td>
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<td>Bad News</td>
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<td>Options</td>
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| Curative                              |                    |
| Palliative                            |                    |
| Hospice                               |                    |
| EOL/LSI/DNAR                          |                    |

### Respond to Emotion

**Manage Uncertainty**

| Acknowledge                           | “Best-Worst”       |
| Hope-Address/Reframe                  | “Hope-Worry”      |
| Nonabandonment                        |                    |

### Summary/Recap

**(Finish Here)**

| Information                           |                    |
| Goals/Preferences                     |                    |
| Decision(s)                           |                    |
| Plan(s)                               |                    |
| Follow-up                             |                    |

---

## Shared Decision-Making:

**Overall Purpose:**

- Mutual/shared Understanding
- Mutual/shared Goals and Plan
- Healing Relationship

### “VALUE”

- Value Patient/family statements
- Acknowledge emotion/uncertainty
- Listen
- Understand
- Elicit questions

### “ASCEND”

- Anticipate (pre-planning)
- Summarize (understanding)
- Concerns (acknowledge)
- Explore, Explain (information, goals)
- Next steps
- Document
SPIKES: “Bad News” format (and a “roadmap” for PCC communication event)

S: Setting
- “Set-up”: Preparation/Planning
- Environment/Comfort
- Avoid Distractions
- Participants/Introductions
- “Warning Shot”

P: Patient/Family Perspective
- ? Perception of current status
- ? Expectations
- ? Misunderstanding/Misconception/Denial
- Values/Goals

I: Invitation
- Type/Extent of Information (Prognosis)

K: Knowledge
- Gauge to individual
- Direct/Avoid Jargon
- Small “Chunks”
- Ask-Tell-Ask
- Relate information to values/goals
- Address decision points
  - Overall goals
  - Necessary specifics (eg DNR)

E: Emotion/Uncertainty
- Respond to Emotion
  (NURSE mnemonic)
- Manage Uncertainty

S: Summary
- Summarize
- Assess Understanding
- Strategy/Next Steps
- Follow-up
- Nonabandonment

NURSE: Responding to Emotion

N: Name
- Suggestive rather than Declarative
  ("it sounds like.....")
- Active Listening
- Restate/Summarize

U: Understand
- Exploration/Active Listening/Appropriate Silence
  ("I’m understanding you to say.....")
  ("I cannot imagine what it is like.....")
- Avoid Premature Reassurance

R: Respect
- Acknowledge/Respect Intensity of Emotion
- Normalize
- Praise Coping Skills
- Non-Verbal Cues Important

S: Support
- Expression of Concern
- Articulate Understanding
- Willingness to Help/Partner
- Nonabandonment

E: Explore
- ("tell me more.....")
- Empathy (contrasted with sympathy)
  ("I....you.....")
Understand: elicit patient’s understanding of their medical situation
- Listen for gaps in knowledge, mixed messages
- Choose your words to match theirs
- Listen for concrete vs abstract thinking styles

“I’m wondering if you could tell me what you already know about your illness”
What have the doctors told you about your father’s condition?

Fill in Gaps: add your understanding of the situation
- May need to break bad news
- Take time to support emotions

“Let me fill in some details”
I have some new information…

Outcomes: elicit the range of patients desired outcomes; explore values, hopes, fears, expectations
- Have patient describe an acceptable quality of life and function
- Test the lower limit carefully

“Paint me a picture of what you would be able to do and enjoy”
“If things were a bit worse such as ______ would that be acceptable?”
Are there health situations you are worried about getting stuck in?”
“Is there a quality of life your mother would find intolerable?”
Given everything that has gone on, how do you think this will most likely turn out?”

Understand: find out more about the patient as a person and why they want what they want
- Help me understand your decision-making”
- “Can you tell me about yourself that will help me understand you and where you’re coming from”
- What things are most important to you right now”
- “Has your father or anyone in his family ever had experiences with severe illness – did he make any comments about his wishes then?”

Feasible Outcome: describe the range of outcomes you think are possible with treatment
- May need to break bad news
- Take time to support emotions

“Here is what we think are the possible results/outcomes of treatment – the best case scenario is ________,
unfortunately there is a real possibility that ________ might happen, at this point what I think is most likely to happen is ________”

If there is overlap between the lowest acceptable QOL and the feasible outcomes:
“Since you are telling me you (your ___) would be OK even if the best we could do is get you out of the hospital to a nursing home, I recommend we try the ________, here is the plan I would recommend……….., what do you think? OR Am I understanding you correctly?”

If there is NO overlap between the lowest acceptable QOL and feasible outcomes:
“We think the best we can hope for with the most aggressive continued treatment is to get your ______ out of the hospital but would still need 24 hour care in a nursing home, probably for the rest of ______ life, but ______ has said this would not be acceptable. In that case, I’m sorry to say that I cannot recommend that we continue the current level of treatment. We will not be able to get ______ to a life ______ would accept. I recommend that we focus on things we can accomplish, like ensuring the absence of pain and other symptoms”
Communication – Seven Steps:

Prepare
Establish (patient perspective)
Determine (patient/family preferences)
Deliver (information)
Respond (emotion)
Establish (plan, goals)

Decision-Making Communication Tool

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</tr>
<tr>
<td>Spiritual</td>
<td>Spiritual</td>
</tr>
<tr>
<td></td>
<td>Financial</td>
</tr>
<tr>
<td></td>
<td>Legal</td>
</tr>
<tr>
<td></td>
<td>Social</td>
</tr>
</tbody>
</table>

“how much information do you want to know about your prognosis”? 

Wants to know: determine specific information wanted  
how to present: provide information with “ballpark” exception  
“it is impossible to predict for any individual with certainty but the average person with your........”

Does not want to know: assess why, acknowledge emotion, provide enough for decisions or establish proxy

Ambivalent or afraid: acknowledge, explore concerns, provide options for presenting
Patient’s self-report is the “gold” standard, alternative methods/observations if patient unable to report

**Pain Experience and Context**
- Location, referral, radiation
- Intensity
  - Last 24 hours and current, rest/movement
- Interference with activities
  - General, mood, relationships, sleep, appetite
- Timing
  - Onset, duration course; persistent/intermittent
- Quality
  - Aching, stabbing throbbing, pressure (somatic)
  - Gnawing, cramping, aching, sharp (visceral)
  - Sharp, tingling, shooting (neuropathic)
- Aggravating/Alleviating factors
- Other symptoms
- Current pain management
  - Meds, how much/often, prescriber
  - Response, relief, compliance, side effects
- Prior pain therapies
  - Reason, length of use, response, discontinued
- Special issues
  - Meaning/consequence for patient/family
  - Knowledge/beliefs regarding pain medications
  - Cultural, religious, spiritual, existential beliefs
  - Goals and expectations
- Psychosocial/psychiatric
  - Prior/current substance abuse
  - Risk factors for aberrant use/diversion (environmental, social)
  - Risk factors for undertreatment
    - Peds, geriatric, minorities, female
    - History abuse, history neuropathic pain
    - Cultural factors
- Medical history – current/prior
  - Oncologic treatment, chemotherapy, radiation, surgery
  - Other significant illnesses. Pre-existing chronic pain
  - Physical exam, labs, imaging

>> Pain diagnosis and individualized pain treatment plan based on mutually developed goals

Pain diagnosis includes etiology (disease process, treatment implication) and pathophysiology
(somatic/visceral, neuropathic)

**Pain Assessment Mnemonic:**

<table>
<thead>
<tr>
<th>Words</th>
<th>4 A’s of pain management outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>W</strong>ords</td>
<td><strong>A</strong>nalgesia</td>
</tr>
<tr>
<td><strong>I</strong>ntensity</td>
<td><strong>A</strong> ctivities</td>
</tr>
<tr>
<td><strong>L</strong>ocation</td>
<td><strong>A</strong> diverse effects</td>
</tr>
<tr>
<td><strong>D</strong>uration</td>
<td><strong>A</strong> berrant behavior</td>
</tr>
<tr>
<td><strong>A</strong>gravating/Alleviating</td>
<td></td>
</tr>
</tbody>
</table>
### Pain Assessment Observations in Cognitively Impaired

| **Facial Expression** | frown, fright, grimace  
<table>
<thead>
<tr>
<th></th>
<th>forehead wrinkle, rapid blinking</th>
</tr>
</thead>
</table>
| **Vocalizations**     | sigh, moan, groan, grunt, chant, call out  
|                       | noisy breathing, ask for help, verbally abusive |
| **Body Movements**    | rigid, tense, guarded, fidget, pace, rock  
|                       | restricted movement; altered gait, mobility |
| **Change in Interpersonal Interaction** | aggressive, combative, decreased interaction  
|                       | inappropriate, disruptive, withdrawn |
| **Change in Activity Pattern or Routines** | refuse food, appetite change, increased resting, change in sleep pattern  
|                       | stop routines, wandering |
| **Mental Status Changes** | crying/tears, confusion, irritable, distressed |
### Pain Assessment in Critically Ill, Sedated, on Mechanical Ventilation

#### Categories:

<table>
<thead>
<tr>
<th>FACIAL EXPRESSION</th>
<th>UPPER LIMBS</th>
<th>COMPLIANCE WITH VENTILATOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>(POINTS)</td>
<td>(1)</td>
<td></td>
</tr>
<tr>
<td>relaxed</td>
<td>no movement</td>
<td>tolerating</td>
</tr>
<tr>
<td>partially tightened brow</td>
<td>partially bent</td>
<td>coughing but tolerating most of time</td>
</tr>
<tr>
<td>fully tightened brow</td>
<td>fully bent, finger flexion</td>
<td>fighting ventilator</td>
</tr>
<tr>
<td>grimacing</td>
<td>retracted</td>
<td>unable to control ventilation</td>
</tr>
</tbody>
</table>

Score points for each category
Total 5 or greater consistent with pain response
**FORM 3.2 Brief Pain Inventory**

Date / / Time: 

Name: ___________________________ Last First Middle Initial

1) Throughout our lives, most of us have had pain from time to time (such as minor headaches, sprains, and toothaches). Have you had pain other than these everyday kinds of pain today?
   1. Yes  2. No

2) On the diagram shade in the areas where you feel pain. Put an X on the area that hurts the most.

   ![Body Diagram]

3) Please rate your pain by circling the one number that best describes your pain at its **worst** in the past 24 hours.
   0 1 2 3 4 5 6 7 8 9 10
   No pain you can imagine

4) Please rate your pain by circling the one number that best describes your pain at its **least** in the past 24 hours.
   0 1 2 3 4 5 6 7 8 9 10
   No pain you can imagine

5) Please rate your pain by circling the one number that best describes your pain on the **average**
   0 1 2 3 4 5 6 7 8 9 10
   No pain you can imagine

6) Please rate your pain by circling the one number that tells how much pain you have **right now**.
   0 1 2 3 4 5 6 7 8 9 10
   No pain you can imagine

7) What treatments or medications are you receiving for your pain?

   ______________________________________________________

8) In the Past 24 hours, how much **relief** have pain treatments or medications provided? Please circle the one percentage that most shows how much relief you have received
   0% 10 20 30 40 50 60 70 80 90 100%
   No Complete relief

9) Circle the one number that describes how, during the past 24 hours, pain has **interfered** with your:
   A. General activity
   0 1 2 3 4 5 6 7 8 9 10
   Does not interfere Completely interferes
   B. Mood
   0 1 2 3 4 5 6 7 8 9 10
   Does not interfere Completely interferes
   C. Walking ability
   0 1 2 3 4 5 6 7 8 9 10
   Does not interfere Completely interferes
   D. Normal work (includes both work outside the home and housework)
   0 1 2 3 4 5 6 7 8 9 10
   Does not interfere Completely interferes
   E. Relations with other people
   0 1 2 3 4 5 6 7 8 9 10
   Does not interfere Completely interferes
   F. Sleep
   0 1 2 3 4 5 6 7 8 9 10
   Does not interfere Completely interferes
   G. Enjoyment of life
   0 1 2 3 4 5 6 7 8 9 10
   Does not interfere Completely interferes

Source: Pain Manag Nurs © 2008 W.B. Saunders
Memorial Pain Assessment Card

4 Mood Scale

Worst mood  Best mood

Put a mark on the line to show your mood.

2 Pain Description Scale

Moderate  Just noticeable
Strong    No pain
Excruciating  Mild
Weak    Severe

Circle the word that describes your pain.

1 Pain Scale

Least possible pain  Worst possible pain

Put a mark on the line to show how much pain there is.

3 Relief Scale

No relief of pain  Complete relief of pain

Put a mark on the line to show how much relief you get.

Fold page along broken line so that each measure is presented to the patient separately in the numbered order.

Used with permission. Memorial Sloan-Kettering Cancer Center Pain Assessment Card.
## Pain Assessment in Advanced Dementia Scale (PAINAD)

**Instructions:** Observe the patient for five minutes before scoring his or her behaviors. Score the behaviors according to the following chart. Definitions of each item are provided on the following page. The patient can be observed under different conditions (e.g., at rest, during a pleasant activity, during caregiving, after the administration of pain medication).

### Behavior Score

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Breathing Independent of vocalization</td>
<td></td>
</tr>
<tr>
<td>0 Normal</td>
<td></td>
</tr>
<tr>
<td>1 Occasional labored breathing, short periods of hyperventilation</td>
<td></td>
</tr>
<tr>
<td>2 Noisy labored breathing, long periods of hyperventilation, Cheyne-Stokes</td>
<td></td>
</tr>
<tr>
<td>2. Negative vocalization</td>
<td></td>
</tr>
<tr>
<td>0 none</td>
<td></td>
</tr>
<tr>
<td>1 occasional moan or groan, low-level speech with a major disapproving quality</td>
<td></td>
</tr>
<tr>
<td>2 repeated trouble calling out, loud moaning or groaning, crying</td>
<td></td>
</tr>
<tr>
<td>3. Facial expression</td>
<td></td>
</tr>
<tr>
<td>0 smiling or inexpressive</td>
<td></td>
</tr>
<tr>
<td>1 sad, frightened, frown</td>
<td></td>
</tr>
<tr>
<td>2 facial grimacing</td>
<td></td>
</tr>
<tr>
<td>4. Body language</td>
<td></td>
</tr>
<tr>
<td>0 relaxed</td>
<td></td>
</tr>
<tr>
<td>1 tense, distressed pacing, fidgeting</td>
<td></td>
</tr>
<tr>
<td>2 rigid, fists clenched, knees pulled up or pushing away, striking out</td>
<td></td>
</tr>
<tr>
<td>5. Consolability</td>
<td></td>
</tr>
<tr>
<td>0 no need to console</td>
<td></td>
</tr>
<tr>
<td>1 distracted or reassured by voice or touch</td>
<td></td>
</tr>
<tr>
<td>2 unable to console, distract, or reassure</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL SCORE**

(Warden et al., 2003)

**Scoring:**
The total score ranges from 0-10 points. A possible interpretation of the scores is: 1-3=mild pain; 4-6=moderate pain; 7-10=severe pain. These ranges are based on a standard 0-10 scale of pain, but have not been substantiated in the literature for this tool.

**Source:**
PAINAD Item Definitions
(Warden et al., 2003)

**Breathing**
1. **Normal breathing** is characterized by effortless, quiet, rhythmic (smooth) respirations.
2. **Occasional labored breathing** is characterized by episodic bursts of harsh, difficult, or wearing respirations.
3. **Short period of hyperventilation** is characterized by intervals of rapid, deep breaths lasting a short period of time.
4. **Noisy labored breathing** is characterized by negative-sounding respirations on inspiration or expiration. They may be loud, gurgling, wheezing. They appear strenuous or wearing.
5. **Long period of hyperventilation** is characterized by an excessive rate and depth of respirations lasting a considerable time.
6. **Cheyne-Stokes respirations** are characterized by rhythmic waxing and waning of breathing from very deep to shallow respirations with periods of apnea (cessation of breathing).

**Negative Vocalization**
1. **None** is characterized by speech or vocalization that has a neutral or pleasant quality.
2. **Occasional moan or groan** is characterized by mournful or murmuring sounds, wails, or laments. Groaning is characterized by louder than usual inarticulate involuntary sounds, often abruptly beginning and ending.
3. **Low level speech with a negative or disapproving quality** is characterized by muttering, mumbling, grumbling, or swearing in a low volume with a complaining, sarcastic, or caustic tone.
4. **Repeated troubled calling out** is characterized by phrases or words being used over and over in a tone that suggests anxiety, uneasiness, or distress.
5. **Loud moaning or groaning** is characterized by mournful or murmuring sounds, wails, or laments in much louder than usual volume. Loud groaning is characterized by louder than usual inarticulate involuntary sounds, often abruptly beginning and ending.
6. **Crying** is characterized by an utterance of emotion accompanied by tears. There may be sobbing or quiet weeping.

**Facial Expression**
1. **Smiling or inexpressive**. Smiling is characterized by upturned corners of the mouth, brightening of the eyes, and a look of pleasure or contentment. Inexpressive refers to a neutral, at ease, relaxed, or blank look.
2. **Sad** is characterized by an unhappy, lonesome, sorrowful, or dejected look. There may be tears in the eyes.
3. **Frightened** is characterized by a look of fear, alarm, or heightened anxiety. Eyes appear wide open.
4. **Frown** is characterized by a downward turn of the corners of the mouth. Increased facial wrinkling in the forehead and around the mouth may appear.
5. **Facial grimacing** is characterized by a distorted, distressed look. The brow is more wrinkled, as is the area around the mouth. Eyes may be squeezed shut.

**Body Language**
1. **Relaxed** is characterized by a calm, restful, mellow appearance. The person seems to be taking it easy.
2. **Tense** is characterized by a strained, apprehensive, or worried appearance. The jaw may be clenched. (Exclude any contractures.)
3. *Distressed pacing* is characterized by activity that seems unsettled. There may be a fearful, worried, or disturbed element present. The rate may be faster or slower.

4. *Fidgeting* is characterized by restless movement. Squirming about or wiggling in the chair may occur. The person might be hitching a chair across the room. Repetitive touching, tugging, or rubbing body parts can also be observed.

5. *Rigid* is characterized by stiffening of the body. The arms and/or legs are tight and inflexible. The trunk may appear straight and unyielding. (Exclude any contractures.)

6. *Fists clenched* is characterized by tightly closed hands. They may be opened and closed repeatedly or held tightly shut.

7. *Knees pulled up* is characterized by flexing the legs and drawing the knees up toward the chest. An overall troubled appearance. (Exclude any contractures.)

8. *Pulling or pushing away* is characterized by resistiveness upon approach or to care. The person is trying to escape by yanking or wrenching him- or herself free or shoving you away.

9. *Striking out* is characterized by hitting, kicking, grabbing, punching, biting, or other form of personal assault.

**Consolability**

1. *No need to console* is characterized by a sense of well-being. The person appears content.

2. *Distracted or reassured by voice or touch* is characterized by a disruption in the behavior when the person is spoken to or touched. The behavior stops during the period of interaction, with no indication that the person is at all distressed.

3. *Unable to console, distract, or reassure* is characterized by the inability to soothe the person or stop a behavior with words or actions. No amount of comforting, verbal or physical, will alleviate the behavior.
PCN Pain Assessment in Patients with Active Cancer

Characterize multiple dimensions of pain:
- Intensity
- Temporal features (onset, course, daily fluctuation, breakthrough)
- Location, radiation
- Quality
- Aggravating/alleviating factors

Understand nature of pain:
- Cause
- Pathophysiology
- Pain syndrome

Identify effects of the Pain on Quality of Life:
- Physical function and well-being
- Mood, coping, psychological well-being
- Social and family relationships
- Sleep, vitality, sexuality

Clarify extent of malignant disease, planned intervention(s), prognosis
Clarify nature and quality of previous testing and past treatments
Detail medical comorbidities
Elucidate psychiatric comorbidities:
- Substance-use history
- Depression/anxiety
- Personality disorder

Detail current interventions/medications
Identify other need for palliative care intervention:
- Other symptoms
- Psychosocial/spiritual distress
- Caregiver burden
- Communication, care coordination, goal-setting
1. Have you been feeling down much of the day for the past few weeks?
2. Do you find that you don’t experience pleasure or enjoyment from your usual activities, not because of pain, but because you just don’t feel interested? (depression)
3. During the last six months have you been nervous or worried a lot of the time about bad things that might happen?
4. Has worry at night – or during the day – kept you from being able to sleep soundly? (anxiety)
5. Have you experienced a past or recent loss with which you are still having some difficulty coping? (bereavement)
6. Are you currently worried about your family members’ ability to cope with your illness? (relationships)
7. Have you found that you are struggling to find a sense of purpose in your life or to feel more hopeful?
8. Have you been struggling with your faith as a result of your illness? (existential, spiritual)
9. What is most stressful to you about your illness? (e.g. change in function or appearance, fear of dying)
10. Circle the number below that best describes in general how much distress you have been experiencing in the past week including today:
   No Distress__1__2__3__4__5__6__7__8__9__10 Extremely Distressed

(6+ on scale or 5+ “yes” answers > consider psych referral)

---

Psychosocial Distress Mnemonic

B ackground (what is going on?)
A ffect (how feel?)
T rouble (what bothers?)
H andle (how cope?)
E mpathy

Depression screen: Have you been bothered by feeling down, depressed, or hopeless?
Have you been bothered by a lack of pleasure in doing things?
Fear of Burdening Family:
- Ask for more information, clarify meaning
- Identify communication barriers
- Normalize feelings
- Open communication
  “disease is a burden, not you”
- Consider family support a gift

Fear of Dying/Leaving Family:
- Stay present emotionally
- Normalize (vs. “naturalize”)
- Reassure regarding symptom control
- Determine what has been done to prepare for death
- Identify communication barriers
- Acknowledge difficulty of communication
- Listen more than speak
- Acknowledge courage to speak of this issue

Denial vs Approach:
- Listen, ask reflective questions
- Clarify “accept” and “acknowledge”
- Assess impact on family
- Assess communication with family
- Do not be a prognosis “hammer”
Anticipatory Grief

Anticipated loss of one’s self, prepare for separation from world
Progression of changes (emotional, social, spiritual, physical, cognitive, behavioral) through which a person attempts to recognize and resolve or adjust to loss of his/her own place
Withdrawal from family, friends
Sadness, crying
Anxiety
Ruminations about past

MDD = Major Depressive Disorder
2 weeks of depressed mood or loss of interest (anhedonia) + at least four symptoms:
  - Sleep disturbance – insomnia or hypersomnia
  - Guilt, worthlessness
  - Lack of energy
  - Loss of concentration, difficulty making decisions
  - Anorexia and/or weight loss
  - Psychomotor agitation or retardation
  - Suicidal ideation

  - symptoms are either new or worse than before the depressive episode, and they persist for most of the day, nearly every day, for 2 consecutive weeks
  - episode is accompanied by clinically significant distress or impairment in social, occupational, or other important areas of functioning
  - symptoms are NOT due to bereavement or to physiological effect of medication, general medical condition, or substance abuse
  - mood described as “depressed”, “sad”, “hopeless”, “doen in the dumps”

Dysthymia = depressed mood + hopelessness (not suicidal) 2 years or more
Depression NOS = does not meet other criteria but with significant impairment of functioning

PTSD = Post-Traumatic Stress Disorder
Re-experiencing traumatic event
Avoidance of situations associated with event
Increased arousal
Social/occupational impairment
Adjustment Disorder:
Emotional and/or behavioral symptoms in response to an identifiable stressor, within 3 months of onset of stressor – symptoms evidenced by:
  - Marked distress in excess of what would be expected
  - Social/occupational impairment
Stress-related disturbance does not meet criteria for another diagnosis and is not an exacerbation of pre-existing diagnosis; does not represent expected bereavement; once stressor has terminated, does not continue for more than an additional 6 months

Diagnostic criteria:
  - Onset of symptoms must occur within 1 month of stressor (not unusual or catastrophic)
  - Manifests behavior disturbances found in any affective disorder (except delusions and hallucinations), neurotic disorder, stress-related disorder, somatoform disorder, or conduct disorder
  - BUT criteria for any individual disorder not met

Example symptom features:
  - Brief depressive reaction, transient, mild, less than 1 month
  - Mixed anxiety/depression
  - Predominant conduct disorder
  - Mixed disturbance of emotion and conduct
  - Prolonged depressive reaction, mild depressive state occurring in response to prolonged exposure to stressful situation (not more than 2 years)
PCN Manic Episode/Hypomanic Episode (Bipolar I/Bipolar II)

**Manic (Bipolar I) Episode:** distinct period during which there is an abnormally and persistently elevated, expansive, or irritable mood lasting at least 1 week (or less if hospitalization is required)

Must be accompanied by at least three (3) of the following symptoms (4 if mood is only irritable); inflated self esteem/grandiosity, decreased need for sleep, pressurized speech, racing thoughts, distractibility, psychomotor agitation, excessive involvement in pleasurable activities with a higher potential for painful consequences, increased involvement in goal-directed activity

Disturbance must be sufficiently severe to cause marked impairment in social and occupational functioning or to require hospitalization, or is characterized by the presence of psychotic features

Symptoms not due to direct physiological effects of medication, general medical condition, or substance abuse
Symptoms do not meet criteria for a mixed episode

**Hypomanic (Bipolar II) Episode:** distinct period during which there is an abnormally and persistently elevated, expansive, or irritable mood lasting at least 4 days

Must be accompanied by at least three (3) of the following symptoms (4 if mood is only irritable); inflated self esteem/grandiosity, decreased need for sleep, pressurized speech, racing thoughts, distractibility, psychomotor agitation, excessive involvement in pleasurable activities with a higher potential for painful consequences, increased involvement in goal-directed activity

Hypomanic episodes must be clearly different from the usual non-depressed mood and there must be a clear change in functioning that is not characteristic of usual functioning

Changes in mood and functioning must be observable by others – in contrast to a manic episode, a hypomanic episode is NOT severe enough to cause marked impairment in social or occupational functioning, does not require hospitalization or demonstrate psychotic features

Symptoms not due to direct physiological effects of medication, general medical condition, or substance abuse
PCN Complicated Grief Questionnaire

Likert scale for each question:
0: not at all
1: somewhat
2: a lot

1. How much of the time are you having trouble accepting the death of a loved one?
2. How much does your grief interfere with your life?
3. How much are you having images or thoughts of your loved one when he or she died or other thoughts about the death that really bother you?
4. Are there things that you used to do when your loved one was alive that you don’t feel comfortable doing any more, that you avoid? How much are you avoiding these things?
5. How much are you feeling cut off or distant from other people since your loved one died, even people you used to be close to, like family or friends?

Score of 5 or greater: consider referral/evaluation/intervention

Duration of symptoms 6-12 months after death
Delerium Criteria: corresponds with ICU/CAM

Feature 1 = acute change or fluctuating course of mental status AND
Feature 2 = inattention

Instruct to squeeze hand with letter “A”
SAVEAHAART

AND

Either Feature 3 or Feature 4

Feature 3 = Disorganized Thinking
Use either a or b:

a – will a stone (leaf) float on water
are there fish (elephants) in the sea
does 11/21 pounds weigh more than 21/11 pounds
can you use a hammer to pound a nail (cut wood)

b – hold up this many (2) fingers, now with the other hand

Feature 4 = altered Level of Consciousness (RASS other than 0)

Delerium Differential Diagnosis:

Metabolic (Ca++, Na+, renal, hepatic, thyroid, O2, glucose)
Infectious (UTI, Pneum, cellulitis, wound, IVC, CNS)
Comorbidity (constipation, urine retention, PE, MI, stroke)
Cancer-related (leptomeningeal, mets, RT, paraneoplastic)
Seizure (complex, partial, postictal)
Deficiency (B12, thiamine, Hgb)
Recent surgery (anesthesia, sedation)
Substance (opioid, benzo, anti-Ach, anti-histamine, NSAID, steroid)
Multi-factorial

Terminal (restlessness often combination of progressive disease, dehydration, accumulation of metabolites from organ failure)
SAS = Sedation-Agitation Scale (Riker)

7 – dangerous agitation  
6 – very agitated  
5 – agitated  
4 – calm, cooperative  
3 – sedated  
2 – very sedated  
1 – unarousable

RASS = Richmond Agitation-Sedation Scale

+4 combative, violent, dangerous  
+3 very agitated, aggressive  
+2 agitated, frequent non-purposeful movements  
+1 restless, anxious but not aggressive or vigorous  
0 alert and calm  
-1 drowsy, not fully awake but sustains awake 10 seconds or more  
-2 light sedation, brief awake less than 10 seconds  
-3 moderate sedation, movement or eyes open to voice but no eye contact  
-4 deep sedation, no response to voice but responds to physical stimulation  
-5 unarousable, no response to voice or physical stimulation
Cut point analysis showed the best sensitivity and specificity for the screening instrument (prioritizing high sensitivity) at a total CAPD score of 9 or greater. Sensitivity was 94.1% (95% CI, 83.8–98.8%) and specificity 79.2% (95% CI, 73.5–84.9%). (CCM, 3/14)

**Figure 1. Cornell Assessment of Pediatric Delirium (CAPD) revised**

**RASS Score ____ (if -4 or -5 do not proceed)**

Please answer the following questions based on your interactions with the patient over the course of your shift:

<table>
<thead>
<tr>
<th>Question</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Does the child make eye contact with the caregiver?</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2. Are the child’s actions purposeful?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Is the child aware of his/her surroundings?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>4. Does the child communicate needs and wants?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Is the child restless?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Is the child inconsolable?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Is the child underactive—very little movement while awake?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Does it take the child a long time to respond to interactions?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL**
<table>
<thead>
<tr>
<th>Developmental Anchor Points For Youngest Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NB</strong></td>
</tr>
<tr>
<td>1. Does the child make eye contact with the caregiver?</td>
</tr>
<tr>
<td>2. Are the child's actions purposeful?</td>
</tr>
<tr>
<td>3. Is the child aware of his/her surroundings?</td>
</tr>
<tr>
<td>4. Does the child communicate needs and wants?</td>
</tr>
<tr>
<td>5. Is the child restless?</td>
</tr>
<tr>
<td>6. Is the child inconsolable?</td>
</tr>
<tr>
<td>7. Is the child underactive—very little movement while awake?</td>
</tr>
<tr>
<td>8. Does it take the child a long time to respond to interactions?</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Delerium Observation Screening (DOS) Scale

Scoring:  
0 = Never  
1 = Sometimes or Always

Observations:
1. Dozes off during conversation or activities  
2. Is easily distracted by stimuli from the environment  
3. Does not finish question or answer  
4. Gives answers that do not fit the question  
5. Reacts slowly to instructions  
6. Thinks is somewhere else  
7. Picking, disorderly, restless  
8. Pulls IV tubing, feeding tubes, catheters etc  
9. Easily or suddenly emotional  
10. Sees/hears things which are not there

Scoring:  
1 = Never  
0 = Sometimes or Always

11. Maintains attention to conversation or action  
12. Knows which part of the day it is  
13. Remembers recent events

Less than 3/13 = not delirious  
3/13 or greater = probably delirious
PCN Spiritual Assessment – HOPE

**H:** sources of hope, meaning, comfort, strength, peace, love, connection

What gives you support?
What are your sources of hope...?
What do you hold onto during difficult times?
What sustains you and keeps you going?
For some people religious and spiritual beliefs act as a source of strength and comfort.  ? true for you

**O:** organized religion

How important is this to you?
What parts are helpful and not so helpful?
Are you part of a faith community?

**P:** personal spirituality and practices

Do you have personal/spiritual beliefs that are independent of organized religion?  
Do you believe in God?  
What aspects of your spirituality or spiritual practices do you find most helpful?

**E:** effects on medical care and end-of-life issues

Has being sick affected the things you usually do to help you spiritually?
Are you worried about conflicts between your spiritual beliefs and medical care?  
? wish to speak to clergy  
? practices/restrictions to know  
? influence on EOL care
PCN Spiritual Assessment FICA Mnemonic

F  faith, belief, meaning
   “do you consider yourself spiritual or religious”?
   “do you have spiritual beliefs that help you cope with stress”?
   “what gives your life meaning”?

I  importance and influence
   “what importance does your faith or belief have on your life”?
   “have your beliefs influenced you in how you handle stress”?
   “do you have specific beliefs that might influence your healthcare decisions”?

C  community
   “are you a part of a religious or spiritual community”?
   “is there a group of people you really love or who are important to you”?

A  address/action in care
   “how should the health care provider address these issues in health care”?

Spirituality = meaning, purpose, something beyond oneself
Qualities of being: hope, love, purpose, meaning
PCN Spiritual Assessment SPIRIT Mnemonic

S: spiritual belief system  
   ? formal affiliation  
   ? important

P: personal spirituality  
   ? in what ways important

I: integration with a spiritual community  
   ? belong to religious group/community

R: ritualized practices/restrictions  
   ? specific practices

I: implications for health care  
   ? discuss religious/spiritual implications of health care

T: terminal events planning  
   ? particular aspects of medical care to forego because of religion/spirituality
Cultural Competency and the Role of Race, Ethnicity, and Religion

Physicians who practice in a multicultural environment have a responsibility to understand that family members from some cultures may have very different perspectives on the family’s role and on who should be involved in treatment decisions. Individuals from some cultures may not endorse tenets of Western clinical ethics, such as the equivalence of withholding and withdrawing life support or the definition of brain death. It is important to anticipate differences in perspectives and apply principles of culturally effective end-of-life care to these situations.

Several studies of patients’ attitudes toward end-of-life care identify values that vary by race, ethnicity, and geographic origin. On average, nonwhites are more likely to request life-sustaining therapy and are less likely to have advanced directives or do-not-resuscitate orders or accept hospice care. Much of this difference is influenced by patients’ and families’ lack of trust in physicians and health-care institutions. Although understanding ethnic variations in preferences will not solve all problems with end-of-life care, a clearer understanding of what contributes to patients’ and families’ understanding, fears, and preferences improves communication and is a crucial step in providing better end-of-life care.

Physicians have a responsibility to avoid stereotyping patients or making assumptions about their attitudes based solely on race, ethnicity, religion, or other demographic characteristics. Existing recommendations can help physicians provide end-of-life care that accommodates needs based on religion and culture. The dying process is one of the most important events in which ritual aspects of religion and spirituality play a role. During discussions of end-of-life care, time should be spent discussing, understanding, and accommodating cultural and religious perspectives, and reasonable efforts should be made to accommodate rituals associated with dying. Physicians should not assume that physician and hospital staff share the same values as patients and families of similar religious or ethnic background, and should not substitute statements from persons of similar background for a more thorough discussion with the patient and their family.

“Cross-cultural” Mnemonics

- Learn, listen
- Explain
- Acknowledge
- Recommend
- Negotiate
- E xplanation
- T reatment
- H ealers
- N egotiation
- I ntervention
- C ollaboration
PCN Questions to Assess Spirituality

Spiritual belief system
Personal spirituality
Integration in a spiritual community
Ritualized practices and restrictions
Implications for medical care
Terminal events planning

Hope: “as you look to the future, what are your biggest fears”?
“are there things you might hope for even if you cannot be cured”?
“does the word hope have any spiritual significance for you”?
“would anything be unfinished if you were to die sooner rather than later”?

Meaning: “what gives your life most meaning”?
“What gives you strength in difficult times”?
“do you have any thoughts about why this happened to you”?
“If your time were limited, what would be most important to you”?

Values: “are you able to hold on to your sense of dignity and purpose”?
“How are others treating you since you became ill”?

Relationships: “how is your family coping with your illness”?
“What is it like to be taken care of by others after being a caregiver for so long”?
“Is there anyone you have to make amends with”?
“(if religious) how are things between you and God”?

PCN Spirituality (Doctrinal Justification[s] alternative)

Hope for Miracle:
   All humans are subjects to the laws of nature by the virtue of God’s sovereign rule issued for people; although God is not bound by the laws of nature, humans are; it is appropriate to accept a miracle when granted by God, but it is not appropriate to expect it, as this would imply that God follows human rules and not his sovereign design.

One Shall Not Give Up On The God Of Faith:
   Continuing with the aggressive treatment no longer constitutes awaiting for God’s will to manifest itself in a miracle; rather it is interfering with God’s plan made evident in the abundantly given due time; withholding treatment amounts to acceptance of God’s plan.

Life Must Be Preserved At All Costs:
   Life given by God is a supreme gift; yet life artificially maintained by a machine is not; the abundant gift of life includes a promise of presence, personhood, and participation in the divine vision; the technology-dependent support of vegetative function discounts the true gift of life.

Suffering Is Redemption:
   One needs capacities of personhood and free choice in order to elect participation in a redemptive and transformative suffering; when such a choice is made to and not for a person, suffering becomes an end in itself.
PCN ESAS (Edmonton Symptom Assessment Scale)

No Symptom 1 2 3 4 5 6 7 8 9 10 Worst Possible Symptom

Pain
Fatigue
dyspnea
Nausea
Constipation
Depression
Anxiety
Drowsiness
Appetite
Well-Being
PCN Mental Status Examination Terms

Appearance and Behavior:
- Grooming, clothing, hair, nails
- Attitude to situation/examiner – hostile, withdrawn, seductive
- Motor – slow, restless, tremors, bizarre

Speech:
- Slow, pressured, monotonous
- Volume – loud, quiet, slurred
- Quantity – restricted/excessive, spontaneous

Mood/Affect:
- Depressed, euphoric, suspicious, labile
- Restricted, flattened, inappropriate

Form of Thought:
- Amount and rate of production – hesitant, vague, flight of ideas
- Continuity of ideas – logical order of the flow of ideas

Content of Thought:
- Delusions – persecution, poisoning
- Suicidal thoughts/plans/intent
- Other – obsessions, compulsions, hypochondriacal preoccupation

Perception:
- Hallucinations – sound, vision, smell, taste, tactile, somatic
- Other – derealization, depersonalization, heightened/dulled

Sensorium and Cognition:
- Level of Consciousness (LOC) – abnormal drowsiness, clouding, delirium
- Memory – immediate recent, remote
- Orientation – time, place, person
- Concentration – serial 7s
- Abstract thinking

Insight:
- Extent of awareness of problem(s)
- Compliance with intervention(s)
PCN Abbreviated Mental Status Score

1  age
2  time (nearest hour)
3  address (repeated at end of exam)
4  year
5  name of current location
6  recognition of two persons
7  date of birth
8  year World War I started
9  name of president
10 count backwards from 20 to 1

6 or less correct consistent with dementia
PCN Short Test of Mental Status (STMS)

Orientation: 0-8 points
Name, address, current location (building), city, state, date (day), month

Attention: 0-7 points
Present 5, then 6, then 7 digits to repeat
2-9-6-8-3      5-7-1-9-4-6      2-1-5-9-3-6-2

Immediate Recall: 0-4 points
Present four (4) unrelated words to repeat (subtract #trials needed to learn)
“apple, Mr Smith, charity, tunnel”

Calculation: 0-4 points
5x13      65-7      58/2      29+11

Abstraction: 0-3 points
Describe similarity:
   Orange – banana
   Dog – horse
   Table – bookcase

Construction and Copying: 0-4 points (2 points each)
Draw a clock face showing 11:10
Copy a cube

Information: 0-4 points
President
1st president
Define an island
Number of weeks in a year

Recall: 0-4 points
“apple, Mr Smith, charity, tunnel”

38 possible points

34-38 – normal
29-33 – cognitive impairment
28 or less - dementia
PCN MMSE Mini-Mental-Status Exam

Orientation: Points
  year/season/date/day/month  5
  state/country/town/hospital/floor  5

Registration:
  name three objects – 1 second to say each (i.e. ball, flag, tree)
  ask patient to repeat all three after you have said them 3
  then repeat them until patient learns all three, count trials

Attention/Calculation: 5
  serial 7’s – up to 5 answers OR
  spell WORLD backwards (DLROW)

Recall: 3
  ask for the three objects repeated above

Language:
  show/name a pen and watch 2
  “repeat – no ifs, ands, or buts” 1
  follow a 3 stage command:
    take a paper in your hand
    fold it in half
    place it on the floor 3
  read and obey
    “CLOSE YOUR EYES” 1
    “write a sentence” 1
    “copy the design” (intersecting pentagons) 1
  30

Cognitive Function:
  24-30 normal
  19-23 mild
  10-18 moderate
  <10 severe
PCN Neuro-Cognitive Behavioral Assessment Terms

Mental Status

Oriented: aware of person, place, time, season
Inattention: difficult in focusing attention
easily distracted
difficulty in following conversation

Disorganized Thinking:
incoherent, rambling, irrelevant
unclear, illogical flow of ideas

Altered Level of Consciousness (LOC):
vigilant – startled easily
lethargic – repeatedly dozes off but responds to touch or voice
stuporous – very difficult to arouse
comatose – cannot be aroused

Psychomotor Retardation:
unusually decreased level of activity
sluggish
staring into space
sitting/lying in one position

Cognitive Skills for Daily Decision-Making

Independent: decisions consistent and reasonable
Modified Independence:
some difficulty in new situations only

Moderately Impaired:
decisions poor
cues and/or supervision required

Severely Impaired:
ever or rarely makes decisions
1. Symptoms present:
   - depression
   - anxiety
   - fatigue
   - dyspnea
   - nausea
   - vomiting
   - pain
   - sleep difficulty
   - bowel problems
   - difficulty concentrating
   - loss of appetite
   - cough

2. Rank (1,2,3,……..) of symptoms present – from most distressing to next most distressing……

3. On a scale of 1 to 10, in general how distressing are ALL of your symptoms to you?
   - 1 – not at all
   - 10 – extremely

4. On a scale of 1 to 10, how well are you able to manage your symptoms?
   - 1 - cannot manage
   - 10 - manage extremely well
### PCN Fall Risk Assessment

**Points**

<table>
<thead>
<tr>
<th>Points</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>history of a fall within past 12 months</td>
</tr>
<tr>
<td>3</td>
<td>altered elimination – incontinence, frequency, urgency</td>
</tr>
<tr>
<td>3</td>
<td>cognitive impairment – inability to recall recent events</td>
</tr>
<tr>
<td></td>
<td>Confusion, impaired judgment</td>
</tr>
<tr>
<td>3</td>
<td>sad, depressed</td>
</tr>
<tr>
<td>3</td>
<td>intrinsic factors</td>
</tr>
<tr>
<td></td>
<td>orthostatic hypotension</td>
</tr>
<tr>
<td></td>
<td>syncope</td>
</tr>
<tr>
<td></td>
<td>arrhythmia</td>
</tr>
<tr>
<td></td>
<td>peripheral neuropathy</td>
</tr>
<tr>
<td></td>
<td>seizure history</td>
</tr>
<tr>
<td></td>
<td>parkinsons</td>
</tr>
<tr>
<td></td>
<td>hx stroke</td>
</tr>
<tr>
<td></td>
<td>neuromuscular disorder</td>
</tr>
<tr>
<td>2</td>
<td>communication – HOH, language barrier, tracheostomy</td>
</tr>
<tr>
<td>2</td>
<td>visual impairment</td>
</tr>
<tr>
<td>2</td>
<td>diuretics or laxatives</td>
</tr>
<tr>
<td>4</td>
<td>anti-hypertensive medication</td>
</tr>
<tr>
<td>6</td>
<td>opioid medication</td>
</tr>
</tbody>
</table>

**Very High Risk** 19 points or greater  
**High Risk** 14-18 points  
**Medium Risk** 10-13 points  
**Low Risk** 9 points or less
PCN Functional Activities Questionnaire

Score each question on a 4 point scale:
   0 = normal, 1 = does with difficulty, 2 = requires assistance, 3 = dependent

In the past 4 weeks, did the patient have any difficulty or need help with?:

1. writing checks, paying bills, keeping financial records
2. assembling tax records, business affairs, papers
3. shopping alone – clothes, household, groceries
4. playing a game of skill or working on a hobby
5. heating water, making coffee, turning off stove
6. preparing a balanced meal
7. keeping track of current events
8. paying attention to, understanding, or discussing a TV program/book/magazine
9. remembering appointment, family occasion, holiday, medication
10. traveling out of the neighborhood, driving, arranging to take bus

normal = 0-1
mild cognitive impairment = 4-9
mild dementia = 10-13
<table>
<thead>
<tr>
<th>Level of Innervation</th>
<th>Sensory</th>
<th>Muscle Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>C4</td>
<td>acromioclavicular joint</td>
<td>diaphragm</td>
</tr>
<tr>
<td>C5</td>
<td>lateral antecubital fossa</td>
<td>shoulder rotators/abductors; elbow flexor</td>
</tr>
<tr>
<td>C6</td>
<td>thumb</td>
<td>supinators, pronators, wrist extensor</td>
</tr>
<tr>
<td>C7</td>
<td>middle finger</td>
<td>elbow extensor, wrist flexor</td>
</tr>
<tr>
<td>C8</td>
<td>little finger</td>
<td>finger flexors, distal phalanx</td>
</tr>
<tr>
<td>T1</td>
<td>medial antecubital fossa</td>
<td>intrinsic hand muscles</td>
</tr>
<tr>
<td>L2</td>
<td>upper anterior thigh</td>
<td>hip flexor</td>
</tr>
<tr>
<td>L3</td>
<td>medial femoral condyle</td>
<td>knee extensor</td>
</tr>
<tr>
<td>L4</td>
<td>medial malleolus</td>
<td>ankle dorsiflexor</td>
</tr>
<tr>
<td>L5</td>
<td>dorsum of foot</td>
<td>toe extensors</td>
</tr>
<tr>
<td>S1</td>
<td>lateral heel</td>
<td>plantar flexors</td>
</tr>
<tr>
<td>S2-5</td>
<td>peri-anal</td>
<td>sphincter</td>
</tr>
<tr>
<td>Score</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>breathless with strenuous exercise</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>short of breath when hurrying on level ground or walking up a slight hill</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>on level ground, walking slower than people of same age because of breathlessness or have to stop for breath when walking at my own pace</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>stop for breath after walking about 100 yards or after a few minutes on level ground</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>too breathless to leave the house; breathless when dressing</td>
<td></td>
</tr>
</tbody>
</table>
Function Assessment: Activities of Daily Living (ADL)

Bathing receives either no assistance or assistance in bathing only one part of the body
Dressing gets clothes and dresses without any assistance except for tying shoes
Toileting goes to toilet room, uses toilet and returns without assistance
   (may use cane or walker and may use bedpan or urinal at night)
Transferring moves in and out of bed and chair without assistance
   (may use cane or walker)
Continence controls bowel and bladder completely by self, without occasional accidents
Feeding feeds self without assistance
   (except for help with cutting meat or buttering bread)

Function Assessment: Instrumental Activities of Daily Living

Use telephone
Shop
Prepare food
Clean house
Laundry
Use transportation
Take medications
Manage finances
Function Assessment

Eastern Cooperative Oncology Group (ECOG)

Performance Status

0 Fully active, able to carry out all pre-disease performance without restriction

1 Restricted in physically strenuous activity, but ambulatory and able to carry out work of a light or sedentary nature (light house work, office)

2 Ambulatory and capable of all self-care but unable to carry out any work activities. Up and about more than 50% of waking hours

3 Capable of only limited self-care, confined to bed or chair more than 50% of waking hours

4 Completely disabled. Cannot carry out any self-care. Totally confined to bed or chair

5 Dead
PCN Function Assessment FAST

Functional Assessment Staging (dementia, cognitive impairment)

5 requires assistance in choosing proper clothing to wear for day/season/occasion
6A improperly putting on clothes without assistance
6B unable to bathe properly occasionally or more often over past weeks
6C inability to handle mechanics of toileting occasionally or more often over past weeks
6D urinary incontinence occasionally or more often
6E fecal incontinence occasionally or more often over past week

7A ability to speak limited to approximately 6 words or fewer in the course of a day
7B speech ability limited to use of a single intelligible word in a day (may be repeated)
7C ambulatory ability is lost; cannot walk without personal assistance
7D cannot sit up without assistance; will fall without lateral support
7E loss of ability to smile
7F loss of ability to hold head up independently

Based on highest CONSECUTIVE level of disability

5 correlates with moderate dementia
6 correlates with moderately severe
7 correlates with severe
7 roughly correlates with 6 month prognosis
PCN Function Assessment CDT

**Clock-Drawing Test**

**Step 1** give patient a sheet of paper with a drawn large circle
**Step 2** instruct to draw numbers in the circle to look like the face of a clock; then draw the hands of the clock to read “10 after 11”

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>perfect</td>
</tr>
<tr>
<td>2</td>
<td>minor visual-spatial errors</td>
</tr>
<tr>
<td>3</td>
<td>inaccurate representation of 10 after 11 when visual-spatial organization is</td>
</tr>
<tr>
<td>4</td>
<td>moderate visual-spatial disorganization of times such that accurate notation</td>
</tr>
<tr>
<td>5</td>
<td>severe level of disorganization</td>
</tr>
<tr>
<td>6</td>
<td>no reasonable representation of a clock</td>
</tr>
</tbody>
</table>

- No errors
- Mildly impaired spacing of numbers
- Draws numbers outside of circle
- Turns page > draws numbers upside down
- Draws with lines (“spokes”)
- Minute hand points to 10
- Writes “10 after 11”
- Unable to make any notation of time
- Moderately poor spacing
- Omits numbers
- Perseveration
- Counterclockwise
- Dysgraphia
- As in 4
- No attempt
- No semblance of a clock
- Writes a word or name

(3 or greater = cognitive deficit)

High NEGATIVE predictive value (95%) > normal CDT strong argument against cognitive deficit

Requires comprehension, visual-spatial ability, reconstruction skills, concentration, numerical knowledge, visual memory, executive function; not biased by age, gender; not influenced by language limitation or altered mood
Function Assessment: **Karnofsky** Performance Status Score (KPS)

<table>
<thead>
<tr>
<th>Karnofsky Score</th>
<th>Level of Functional Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>normal, no complaints, no evidence of disease</td>
</tr>
<tr>
<td>90</td>
<td>able to carry out normal activity, minor signs/symptoms of disease</td>
</tr>
<tr>
<td>80</td>
<td>normal activity with effort, some signs or symptoms of disease</td>
</tr>
<tr>
<td>70</td>
<td>cares for self, unable to carry on normal activity or to do active work</td>
</tr>
<tr>
<td>60</td>
<td>requires occasional assistance but is able to care for most needs</td>
</tr>
<tr>
<td>50</td>
<td>requires considerable assistance and frequent medical care</td>
</tr>
<tr>
<td>40</td>
<td>disabled, requires special care and assistance</td>
</tr>
<tr>
<td>30</td>
<td>severely disabled, hospitalization indicated although death not imminent</td>
</tr>
<tr>
<td>20</td>
<td>hospitalization necessary, very sick, active supportive treatment necessary</td>
</tr>
<tr>
<td>10</td>
<td>moribund, fatal processes, progressing rapidly</td>
</tr>
<tr>
<td>0</td>
<td>dead</td>
</tr>
</tbody>
</table>
Function Assessment: modified Rankin score (m-R)

0  no symptoms
1  no significant disability despite symptoms – able to carry out all usual activities
2  slight disability – unable to carry out all previous activities but able to carry
    out ADLs without assistance
3  moderate disability – requiring some help but able to walk without assistance
4  moderately severe disability – unable to walk without assistance and unable
    to carry out ADLs without assistance
5  severe disability – bedridden, incontinent, requiring constant nursing care and attention
6  dead
Eye opening response:
   - Spontaneous – open with blinking at baseline: 4 points
   - Opens to verbal command, speech or shout: 3 points
   - Opens to pain, not applied to face: 2 points
   - None: 1 point

Verbal response:
   - Oriented: 5 points
   - Confused conversation, but able to answer questions: 4 points
   - Inappropriate responses, words discernible: 3 points
   - Incomprehensible speech: 2 points
   - None: 1 point

Motor response:
   - Obeys commands for movement: 6 points
   - Purposeful movement to painful stimuli: 5 points
   - Withdraws to pain: 4 points
   - Abnormal (spastic) flexion, decorticate posture: 3 points
   - Extensor (rigid) response, decerebrate posture: 2 points
   - None: 1 point

Max 15 points
PCN Function Assessment

**Palliative Performance Scale (PPS)**

<table>
<thead>
<tr>
<th>%:</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambulation:</td>
<td>Full</td>
</tr>
<tr>
<td>Activity/Evidence of Disease:</td>
<td>Normal/no evidence</td>
</tr>
<tr>
<td>Self-Care:</td>
<td>Full</td>
</tr>
<tr>
<td>Intake:</td>
<td>Normal</td>
</tr>
<tr>
<td>LOC:</td>
<td>Intact</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>%:</th>
<th>90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambulation:</td>
<td>Full</td>
</tr>
<tr>
<td>Activity/Evidence of Disease:</td>
<td>Normal/some</td>
</tr>
<tr>
<td>Self-Care:</td>
<td>Full</td>
</tr>
<tr>
<td>Intake:</td>
<td>Normal</td>
</tr>
<tr>
<td>LOC:</td>
<td>Intact</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>%:</th>
<th>80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambulation:</td>
<td>Full</td>
</tr>
<tr>
<td>Activity/Evidence of Disease:</td>
<td>Normal with effort/some</td>
</tr>
<tr>
<td>Self-Care:</td>
<td>Full</td>
</tr>
<tr>
<td>Intake:</td>
<td>Normal or reduced</td>
</tr>
<tr>
<td>LOC:</td>
<td>Intact</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>%:</th>
<th>70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambulation:</td>
<td>Reduced</td>
</tr>
<tr>
<td>Activity/Evidence of Disease:</td>
<td>Unable to do normal/some</td>
</tr>
<tr>
<td>Self-Care:</td>
<td>Full</td>
</tr>
<tr>
<td>Intake:</td>
<td>Normal or reduced</td>
</tr>
<tr>
<td>LOC:</td>
<td>Intact or confusion</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>%:</th>
<th>60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambulation:</td>
<td>Reduced</td>
</tr>
<tr>
<td>Activity/Evidence of Disease:</td>
<td>Unable to do hobby or some housework/significant</td>
</tr>
<tr>
<td>Self-Care:</td>
<td>Occasional assist</td>
</tr>
<tr>
<td>Intake:</td>
<td>Normal or reduced</td>
</tr>
<tr>
<td>LOC:</td>
<td>Intact or confusion</td>
</tr>
<tr>
<td>%</td>
<td>Ambulation</td>
</tr>
<tr>
<td>---</td>
<td>------------</td>
</tr>
<tr>
<td>50</td>
<td>Mainly sit/lie</td>
</tr>
<tr>
<td>40</td>
<td>Mainly in bed</td>
</tr>
<tr>
<td>30</td>
<td>Bed bound</td>
</tr>
<tr>
<td>20</td>
<td>Bed bound</td>
</tr>
<tr>
<td>10</td>
<td>Bed bound</td>
</tr>
</tbody>
</table>

**Instructions for PPS**

Begin at the left column and read downward until the appropriate ambulation level is reached, then read across to the next column and downwards again until the activity/evidence of disease is located. These steps are repeated until all five columns are covered before assigning the PPS. Leftward columns (ambulation on left>activity level/evidence of disease>self-care>intake>LOC on right) are “stronger” determinants and take precedence over others to the right. PPS scores are in 10% increments. Choosing a “half-fit” level (such as 45%) is not correct. The combination of clinical judgment and “leftward” precedence determines the score. PPS may be used for: communication regarding functional status, criterion for workload assessment or other measurements/comparisons, and as a prognostic indicator.
# Edmonton Frail Scale

<table>
<thead>
<tr>
<th>Domain</th>
<th>Item</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognition</td>
<td>Please imagine that this pre-drawn circle is a clock. Please place the numbers in the correct positions and then place the hands to indicate a time of “ten past eleven”</td>
<td>0 – no errors, 1- minor spacing errors, 2- other errors</td>
</tr>
<tr>
<td>General Health</td>
<td>In the past year how many times have you been admitted to the hospital?</td>
<td>0-0, 1-1, 2- 2 or more</td>
</tr>
<tr>
<td>Status</td>
<td>In general, how would you describe your health?</td>
<td>0-excellent, very good, or good, 1-fair, 2-poor</td>
</tr>
<tr>
<td>Functional</td>
<td>With how many of the following activities do you help: meal preparation, shopping, transportation, telephone, housekeeping, laundry, managing money, taking medications?</td>
<td>0-1, 1-2 to 4, 2-5 to 8</td>
</tr>
<tr>
<td>Independence</td>
<td>When you need help, can you count on someone who is willing and able to meet your needs?</td>
<td>0-always, 1-sometimes, 2-never</td>
</tr>
<tr>
<td>Social Support</td>
<td>Do you use five or more prescriptions on a regular basis?</td>
<td>0-no, 1-yes</td>
</tr>
<tr>
<td>Medication Use</td>
<td>At times do you forget to take your prescription medications?</td>
<td>0-no, 1-yes</td>
</tr>
<tr>
<td>Nutrition</td>
<td>Have you recently lost weight so that your clothing has become looser?</td>
<td>0-no, 1-yes</td>
</tr>
<tr>
<td>Mood</td>
<td>Do you often feel sad or depressed?</td>
<td>0-no, 1-yes</td>
</tr>
<tr>
<td>Continence</td>
<td>Do you have a problem with losing control of urine when you don’t want to?</td>
<td>0-no, 1-yes</td>
</tr>
<tr>
<td>Functional</td>
<td>Please sit in this chair with your back and arms resting. When I say “go”, please stand up and walk to the mark on the floor (approximately 10 feet away), then turn around, return to the chair and sit down.</td>
<td>0-10 seconds or less, 1-11 to 20 seconds, 2-&gt;20 seconds or unwilling, unable</td>
</tr>
</tbody>
</table>

**Scoring:**

- 0-5 not frail
- 6-7 vulnerable
- 8-9 mild frailty
- 10-11 moderate frailty
- 12-17 severe frailty
### PCN Malnutrition Categories

**Severe:**
- **Albumin**: $< 2.0 \text{ g/dl}$
- **Prealbumin**: $< 5.0 \text{ mg/dl}$
- **Ideal body weight**: $< 70\%$
- **Usual body weight**: $< 75\%$ or *
- **BMI**: $< 16$

**Moderate:**
- **Albumin**: $< 2.5 \text{ g/dl}$
- **Prealbumin**: $< 10.0 \text{ mg/dl}$
- **Ideal body weight**: $< 80\%$
- **Usual body weight**: $< 85\%$
- **BMI**: $< 17$

**Mild:**
- **Albumin**: $< 3.0 \text{ g/dl}$
- **Prealbumin**: $< 15.0 \text{ mg/dl}$
- **Ideal body weight**: $< 90\%$
- **Usual body weight**: $< 95\%$
- **BMI**: $< 18.5$

*unintended weight loss of > 5\% in one month, >7.5\% in 3 months, >10\% in 6 months, or >20\% in one year

“chronic” malnutrition is defined as a duration of three months or more.

At least two indicators should be present in addition to physical findings and high-risk clinical circumstances. Albumin and prealbumin should be considered one indicator, not two.
CPC 1: good cerebral performance – conscious, alert, able to work, might have mild neurologic or psychologic deficit

CPC 2: moderate cerebral disability – conscious, sufficient cerebral function for independent activities of daily life, able to work in sheltered environment

CPC 3: severe cerebral disability – conscious, dependent on others for daily support because of impaired brain function, ranges from ambulatory state to severe dementia or paralysis

CPC 4: coma or vegetative state – any degree of coma without the presence of all brain death criteria; unawareness, even if appears awake (vegetative state) without interaction with environment, may have spontaneous eye opening and sleep/awake cycles, cerebral unresponsiveness

CPC 5: brain death – apnea, areflexia, EEG silence
PCN Function Assessment Barthel Index

Activity

Feeding:  
0 = unable  
5 = needs help cutting, spreading butter etc, or requires modified diet  
10 = independent

Bathing:  
0 = dependent  
5 = independent (or in shower)

Grooming:  
0 = needs help with personal care  
5 = independent face/hair/teeth/shaving

Dressing:  
0 = dependent  
5 = needs help but can do about half unaided  
10 = independent (including buttons, zips, laces)

Bowels:  
0 = incontinent (or needs to be given enemas)  
5 = occasional accident  
10 = continent

Bladder:  
0 = incontinent, or catheterized and unable to manage alone  
5 = occasional accident  
10 = continent

Toilet Use:  
0 = dependent  
5 = needs some help  
10 = independent (on and off, dressing, wiping)

Transfers: (bed to chair and back)  
0 = unable, no sitting balance  
5 = major help (one or two people, physical) can sit  
10 = minor help (verbal or physical)  
15 = independent

Mobility: (on level surfaces)  
0 = immobile or less than 50 yards  
5 = wheelchair independent, including corners, more than 50 yards  
10 = walks with help of one person (verbal or physical) more than 50 yards  
15 = independent

Stairs:  
0 = unable  
5 = needs help (verbal, physical, carrying aid)  
10 = independent

0 – 100 points

Record what patient actually does; need for supervision > not independent; usually last 24-48 hrs
PCN Prognostic Assessment

Non-Disease Specific

Population: Hospitalized, age 70 or greater

**Burden of Illness Score (BIS)**

<table>
<thead>
<tr>
<th>BIS variables</th>
<th>BIS points</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-risk diagnoses</td>
<td>0-3</td>
</tr>
<tr>
<td>See below</td>
<td></td>
</tr>
<tr>
<td>Albumin &lt; 3.5</td>
<td>1</td>
</tr>
<tr>
<td>Creatinine &gt; 1.5</td>
<td>1</td>
</tr>
<tr>
<td>Dementia</td>
<td>1</td>
</tr>
<tr>
<td>Walking impairment</td>
<td>1</td>
</tr>
</tbody>
</table>

(Scoring for High-risk diagnoses)

<table>
<thead>
<tr>
<th>Variable</th>
<th>points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lymphoma</td>
<td>6</td>
</tr>
<tr>
<td>Leukemia</td>
<td>6</td>
</tr>
<tr>
<td>Acute renal failure</td>
<td>5</td>
</tr>
<tr>
<td>Cancer</td>
<td>3</td>
</tr>
<tr>
<td>Stroke</td>
<td>2</td>
</tr>
<tr>
<td>CHF</td>
<td>2</td>
</tr>
<tr>
<td>COPD</td>
<td>2</td>
</tr>
<tr>
<td>Chronic renal failure</td>
<td>2</td>
</tr>
<tr>
<td>DM with organ disease</td>
<td>1</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>1</td>
</tr>
</tbody>
</table>

(Transfer High-risk diagnoses score to BIS:

<table>
<thead>
<tr>
<th>Score</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1-2</td>
<td>1</td>
</tr>
<tr>
<td>3-5</td>
<td>2</td>
</tr>
<tr>
<td>6 or greater</td>
<td>3</td>
</tr>
</tbody>
</table>

Correlation of **BIS Score** with **1-year mortality risk %**

<table>
<thead>
<tr>
<th>Score</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>24</td>
</tr>
<tr>
<td>3</td>
<td>51</td>
</tr>
<tr>
<td>4 or greater</td>
<td>74</td>
</tr>
</tbody>
</table>
Prognosis Assessment  Non-Disease Specific

CARING criteria

Population: Criteria on day of admission to acute care hospital

Caring criteria components:

**C:** Primary Diagnosis of Cancer
  Cancer diagnosis is primary reason for admission including admission for chemoRx

**A:** Admitted to the hospital 2 or more times in the past year
  for the same chronic illness or complication of that illness

**R:** Resident in a Long-Term Care or Skilled Nursing Facility (Nursing Home)

**I:** ICU admission with Multiple Organ System Failure (MOF)
  MOF = any two or more of the following
  - Mechanical ventilation
  - Pressor support for hypotension
  - Renal replacement therapy (RRT) indicated or already started

**NG:** Presence of two or more items from one category of non-cancer hospice guidelines

Categories

**Renal**
- Stop/decline dialysis
- Not transplant candidate
- Urine output < 40ml/24 hours
- Creatinine > 8.0
- Creatinine clearance 10 ml/min or less
- Uremia
- Persistent K+ > 7.0
- One or more comorbid conditions:
  - Cancer
  - Congestive Heart Failure
  - Chronic Lung Disease
  - Sepsis
  - Cirrhosis
  - HIV/AIDS

**Dementia**
- Unable to ambulate independently
- Urinary or fecal incontinence
- Unable to speak with more than single words
- Unable to bathe independently
- Unable to dress independently
- One or more comorbid conditions:
  - Aspiration pneumonitis
  - Pyelonephritis
  - Decubitus ulcer
  - Difficulty swallowing
  - or refusal to eat
Caring Criteria Components [or combination(s) of components] predicting 1-year mortality probability of 0.49 or greater (49% or greater):
Caring Criteria Components [or combination(s) of components] predicting 1-year mortality probability of 0.49 or greater (49 % or greater):

Age < 55: \( A \) and/or \( R \) Plus \( C \) and/or \( I \) and or \( NG \)

Age 55-65: \( A \) and/or \( R \) Plus \( C \) and/or \( I \)

\( NG \)

Age 66-75: \( A \) and/or \( R \) Plus \( C \) and/or \( I \)

\( NG \)

Age > 75: \( A \) plus \( R \)

\( C \)

\( I \)

\( NG \)
PCN Prognostic Assessment

Non-Disease Specific

**Charlson Comorbidity Index (CCI)**

Score = total points

<table>
<thead>
<tr>
<th>Comorbidity component (# points)</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myocardial infarction</td>
<td>1</td>
</tr>
<tr>
<td>Congestive heart failure</td>
<td>1</td>
</tr>
<tr>
<td>Peripheral vascular disease</td>
<td>1</td>
</tr>
<tr>
<td>Cerebrovascular disease</td>
<td>1</td>
</tr>
<tr>
<td>Dementia</td>
<td>1</td>
</tr>
<tr>
<td>COPD</td>
<td>1</td>
</tr>
<tr>
<td>Connective tissue disease</td>
<td>1</td>
</tr>
<tr>
<td>Peptic ulcer disease</td>
<td>1</td>
</tr>
<tr>
<td>Diabetes mellitus-uncomplicated</td>
<td>1</td>
</tr>
<tr>
<td>Diabetes mellitus-end organ damage</td>
<td>2</td>
</tr>
<tr>
<td>Chronic kidney disease-moderate to severe</td>
<td>2</td>
</tr>
<tr>
<td>Hemiplegia</td>
<td>2</td>
</tr>
<tr>
<td>Leukemia</td>
<td>2</td>
</tr>
<tr>
<td>Malignant lymphoma</td>
<td>2</td>
</tr>
<tr>
<td>Solid tumor</td>
<td>2</td>
</tr>
<tr>
<td>Solid tumor-metastatic</td>
<td>6</td>
</tr>
<tr>
<td>Liver disease-mild</td>
<td>1</td>
</tr>
<tr>
<td>Liver disease-moderate to severe</td>
<td>3</td>
</tr>
<tr>
<td>AIDS</td>
<td>6</td>
</tr>
</tbody>
</table>
PCN Prognostic Assessment

Non-Disease Specific

Population: Newly Admitted Nursing Home Residents

Mortality Risk Index Score (MRIS)

<table>
<thead>
<tr>
<th>MRIS variables</th>
<th>MRIS Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence of cancer</td>
<td>2.43</td>
</tr>
<tr>
<td>Shortness of breath</td>
<td>2.15</td>
</tr>
<tr>
<td>CHF</td>
<td>1.66</td>
</tr>
<tr>
<td>Bedbound</td>
<td>1.99</td>
</tr>
<tr>
<td>Male</td>
<td>1.42</td>
</tr>
<tr>
<td>Unstable conditions</td>
<td>1.59</td>
</tr>
<tr>
<td>&lt;75% of food eaten</td>
<td>1.75</td>
</tr>
<tr>
<td>Low functional ability score</td>
<td>1.77</td>
</tr>
<tr>
<td>Swallowing problem</td>
<td>1.41</td>
</tr>
<tr>
<td>Bowel incontinence</td>
<td>1.44</td>
</tr>
<tr>
<td>BMI &lt; 23</td>
<td></td>
</tr>
</tbody>
</table>

Correlation of **MRIS points** with **1-year mortality risk %**

<table>
<thead>
<tr>
<th>Points</th>
<th>1-year mortality risk %</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1</td>
<td>11.4</td>
</tr>
<tr>
<td>2-3</td>
<td>20.2</td>
</tr>
<tr>
<td>4-5</td>
<td>32.3</td>
</tr>
<tr>
<td>6-7</td>
<td>44.5</td>
</tr>
<tr>
<td>8-9</td>
<td>55.9</td>
</tr>
<tr>
<td>10-11</td>
<td>69.0</td>
</tr>
<tr>
<td>12-13</td>
<td>81.7</td>
</tr>
<tr>
<td>14-15</td>
<td>87.6</td>
</tr>
<tr>
<td>16-17</td>
<td>95.4</td>
</tr>
<tr>
<td>18-19</td>
<td>100</td>
</tr>
</tbody>
</table>
PCN Prognosis Assessment

Non-Disease Specific

Population: Hospital Palliative Care Consults

Palliative Prognostic Score (PaP): 30-day survival probability

<table>
<thead>
<tr>
<th>PaP Variables</th>
<th>PaP points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyspnea</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>Anorexia</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1.5</td>
</tr>
<tr>
<td>No</td>
<td>0</td>
</tr>
<tr>
<td>KPS</td>
<td></td>
</tr>
<tr>
<td>30 or greater</td>
<td>0</td>
</tr>
<tr>
<td>Less than 30</td>
<td>2.5</td>
</tr>
<tr>
<td>Total WBC</td>
<td></td>
</tr>
<tr>
<td>4.8-8.4</td>
<td>0</td>
</tr>
<tr>
<td>8.5-11</td>
<td>0.5</td>
</tr>
<tr>
<td>&gt; 11</td>
<td>1.5</td>
</tr>
<tr>
<td>Lymphocyte%</td>
<td></td>
</tr>
<tr>
<td>20-40</td>
<td>0</td>
</tr>
<tr>
<td>12-19.9</td>
<td>1.0</td>
</tr>
<tr>
<td>&lt;11.9</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Clinician Prediction

<table>
<thead>
<tr>
<th>#Weeks</th>
<th>Survival</th>
<th>PaP points</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;12</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>11-12</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>7-10</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>5-6</td>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td>3-4</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>1-2</td>
<td>8.5</td>
<td></td>
</tr>
</tbody>
</table>

Total Possible 17.5 points

Correlation of Points score with 30 day mortality %

<table>
<thead>
<tr>
<th>Points Score</th>
<th>Mortality %</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5.5</td>
<td>&gt;70%</td>
</tr>
<tr>
<td>5.6-11.0</td>
<td>30%-70%</td>
</tr>
<tr>
<td>11.1-17.5</td>
<td>&lt;30%</td>
</tr>
</tbody>
</table>
PCN Prognostic Assessment

Non-Disease Specific

Population: Community Hospital (age 70 or greater, excluding ICU, LOS less than 2 days)

**Prognostic Index 1-yr Mortality Older Adults (PIMOA)**

<table>
<thead>
<tr>
<th>PIMOA variables</th>
<th>PIMOA points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>1</td>
</tr>
<tr>
<td>ADL Dependence at discharge</td>
<td></td>
</tr>
<tr>
<td>1-4 ADLs</td>
<td>2</td>
</tr>
<tr>
<td>All ADLs</td>
<td>5</td>
</tr>
<tr>
<td>CHF</td>
<td>2</td>
</tr>
<tr>
<td>Cancer-localized</td>
<td>3</td>
</tr>
<tr>
<td>Cancer-metastatic</td>
<td>8</td>
</tr>
<tr>
<td>Admission creatinine</td>
<td></td>
</tr>
<tr>
<td>3.0 or greater</td>
<td>2</td>
</tr>
<tr>
<td>Admission albumin</td>
<td></td>
</tr>
<tr>
<td>3.0-3.4</td>
<td>1</td>
</tr>
<tr>
<td>&lt;3.0</td>
<td>2</td>
</tr>
</tbody>
</table>

Correlation of total points with 1-year mortality risk %

<table>
<thead>
<tr>
<th>Total Points</th>
<th>1-year Mortality Risk %</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1</td>
<td>4</td>
</tr>
<tr>
<td>2-3</td>
<td>19</td>
</tr>
<tr>
<td>4-6</td>
<td>34</td>
</tr>
<tr>
<td>&gt;6</td>
<td>63</td>
</tr>
</tbody>
</table>
PCN Prognosis PPS

Prognostic Assessment PPS (Palliative Performance Scale)

Population: Non-disease specific  
Community Palliative Program Consults  
Acute care  
LTC  
In-patient hospice unit

<table>
<thead>
<tr>
<th>Survival Rate %</th>
</tr>
</thead>
<tbody>
<tr>
<td>#days: 1 3 5 7 14 30 45 60 90 180 365</td>
</tr>
<tr>
<td>PPS(%) 80 100 100 100 100 100 81 75 46 35 10</td>
</tr>
<tr>
<td>70 100 97 96 95 94 82 76 68 57 36 12</td>
</tr>
<tr>
<td>60 100 100 98 91 65 52 41 25 10 7</td>
</tr>
<tr>
<td>50 100 97 94 91 76 57 41 33 14 4 0</td>
</tr>
<tr>
<td>40 98 97 96 88 73 50 36 27 16 8 1</td>
</tr>
<tr>
<td>30 97 87 71 63 42 23 22 17 11 2 0</td>
</tr>
<tr>
<td>20 92 72 53 42 19 8 6 5 4 0 0</td>
</tr>
<tr>
<td>10 52 33 19 13 5 0 0 0 0 0 0</td>
</tr>
</tbody>
</table>

JPSM. 2009;37(6):965
6 month mortality % for patients with Advanced Chronic Medical Conditions:
  Chronic heart failure, NYHA III-IV
  Chronic lung failure, dyspnea stage 3+, sat <90% RA or chronic O2
  Chronic renal failure, GFR<30, creat 3 or greater
  Chronic liver failure, Child-Pugh > 7
  Chronic neurologic disease with cognitive impairment (18 or less MMSE) or
  functional impairment (Barthel Index < 60)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>PALIAR score</th>
</tr>
</thead>
<tbody>
<tr>
<td>85 years old or more</td>
<td>3</td>
</tr>
<tr>
<td>Anorexia</td>
<td>3.5</td>
</tr>
<tr>
<td>Dyspnea at rest</td>
<td>3.5</td>
</tr>
<tr>
<td>Pressure ulcer(s)</td>
<td>3</td>
</tr>
<tr>
<td>Serum albumin &lt; 2.5</td>
<td>4</td>
</tr>
<tr>
<td>ECOG 3 or more</td>
<td>4</td>
</tr>
</tbody>
</table>

0 – 21 points

Correlation with observed mortality(% in 6 months):

<table>
<thead>
<tr>
<th>Points</th>
<th>% mortality 6 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>21</td>
</tr>
<tr>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>3.5</td>
<td>37</td>
</tr>
<tr>
<td>4</td>
<td>39</td>
</tr>
<tr>
<td>6-6.5</td>
<td>43</td>
</tr>
<tr>
<td>7-7.5</td>
<td>47</td>
</tr>
<tr>
<td>8-10.5</td>
<td>65</td>
</tr>
<tr>
<td>11-21</td>
<td>67</td>
</tr>
</tbody>
</table>
PCN Prognostic Assessment

Non-Disease Specific

Parameters of Prognosis Time Estimate

<table>
<thead>
<tr>
<th>Time Estimate</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours to Days</td>
<td>less than 4 days</td>
</tr>
<tr>
<td>Days to Weeks</td>
<td>4 to 30 days</td>
</tr>
<tr>
<td>Weeks to Months</td>
<td>31 to 180 days</td>
</tr>
<tr>
<td>Months to Years</td>
<td>more than 181 days</td>
</tr>
</tbody>
</table>
**Patients with diagnosis of solid organ cancer who were in good enough health to participate in clinical trial > ambulatory and good functional status**

<table>
<thead>
<tr>
<th>Tumor Type</th>
<th>Response rate %</th>
<th>Median Duration of Response (months)</th>
<th>Median Survival (months)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Breast</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>25-55</td>
<td>8-12</td>
<td>24-36</td>
</tr>
<tr>
<td><strong>Lung (Nonsmall Cell)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Squamous</td>
<td>24-36</td>
<td>4-6</td>
<td>6-11</td>
</tr>
<tr>
<td>Nonsquamous</td>
<td>20-25</td>
<td>4-6</td>
<td>10-12</td>
</tr>
<tr>
<td><strong>Esophagus</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>30-50</td>
<td>4-6</td>
<td>6-9</td>
</tr>
<tr>
<td><strong>Gastro-Esophageal Junction</strong></td>
<td>40-60</td>
<td>6-8</td>
<td>9-12</td>
</tr>
<tr>
<td><strong>Gastric</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HER2 negative</td>
<td>20-40</td>
<td>4-7</td>
<td>6-11</td>
</tr>
<tr>
<td>HER2 positive</td>
<td>~50</td>
<td>6-7</td>
<td>12-14</td>
</tr>
<tr>
<td><strong>Pancreas</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20-32</td>
<td>4-6</td>
<td>8-11</td>
</tr>
<tr>
<td><strong>Liver</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatocellular HCC</td>
<td>25-40</td>
<td>2-5</td>
<td></td>
</tr>
<tr>
<td>Nonhepatitis C related HCC</td>
<td></td>
<td></td>
<td>6-10</td>
</tr>
<tr>
<td>Hepatitis C related HCC</td>
<td></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td><strong>Biliary-Cholangiocarcinoma</strong></td>
<td>20-35</td>
<td>4-8</td>
<td>9-14</td>
</tr>
<tr>
<td><strong>Colon</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>30-45</td>
<td>8-10</td>
<td>16-21</td>
</tr>
<tr>
<td><strong>Melanoma</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15-40</td>
<td>4-14</td>
<td>6-15</td>
</tr>
</tbody>
</table>
**Prognosis Assessment:** Disease specific, all cancers

**Palliative Prognostic Index (PPI)**

**Population:** *cancer patients in palliative care unit*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PPS</strong></td>
<td></td>
</tr>
<tr>
<td>10-20</td>
<td>4.0</td>
</tr>
<tr>
<td>30-50</td>
<td>2.5</td>
</tr>
<tr>
<td>60 or greater</td>
<td>0</td>
</tr>
<tr>
<td><strong>Oral Intake</strong></td>
<td></td>
</tr>
<tr>
<td>Severely reduced</td>
<td>2.5</td>
</tr>
<tr>
<td>(less than mouthfuls)</td>
<td></td>
</tr>
<tr>
<td>Moderately reduced</td>
<td>1.0</td>
</tr>
<tr>
<td>Normal</td>
<td>0</td>
</tr>
<tr>
<td><strong>Edema</strong></td>
<td></td>
</tr>
<tr>
<td>Present</td>
<td>1.0</td>
</tr>
<tr>
<td>Absent</td>
<td>0</td>
</tr>
<tr>
<td><strong>Dyspnea at rest</strong></td>
<td></td>
</tr>
<tr>
<td>Present</td>
<td>3.5</td>
</tr>
<tr>
<td>Absent</td>
<td>0</td>
</tr>
<tr>
<td><strong>Delirium</strong></td>
<td></td>
</tr>
<tr>
<td>Present</td>
<td>4.0</td>
</tr>
<tr>
<td>Absent</td>
<td>0</td>
</tr>
</tbody>
</table>

**Risk Groups:**
- **A** (PPI 2 or less)
- **B** (PPI more than 2 up to 4)
- **C** (more than 4)

**Expected Survival:**
- PPI more than 6: less than 3 weeks
- PPI more than 4: less than 6 weeks
KPS Mortality Prediction

Patient population:  Hospice patients with cancer

Predicted Survival in Days

<table>
<thead>
<tr>
<th>KPS(%)</th>
<th>10-20</th>
<th>30-40</th>
<th>50 or greater</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50% Dead</td>
<td>90% Dead</td>
<td>50% Dead</td>
</tr>
<tr>
<td># Symptoms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>53</td>
<td>232</td>
<td>115</td>
</tr>
<tr>
<td>1</td>
<td>38-46</td>
<td>168-199</td>
<td>83-98</td>
</tr>
<tr>
<td>2</td>
<td>29-38</td>
<td>128-165</td>
<td>63-82</td>
</tr>
<tr>
<td>3</td>
<td>23-30</td>
<td>101-131</td>
<td>50-62</td>
</tr>
<tr>
<td>4</td>
<td>19-23</td>
<td>10-95</td>
<td>41-49</td>
</tr>
<tr>
<td>5</td>
<td>16</td>
<td>72</td>
<td>36</td>
</tr>
</tbody>
</table>

Symptoms:
- Dry mouth
- Dyspnea
- Anorexia or difficulty eating
- Trouble swallowing
- Weight loss
Cancer Presentations with a Median Survival of Six Months or Less

**Breast**

Any metastatic breast carcinoma with one or more of the following:
- KPS < 60, ECOG >2
- Ca++ > 11.2
- Spinal cord compression with decreased ability to walk
- C-reactive protein > 10 and albumin < 3.5
- Peritoneal or leptomeningeal metastases

Any metastatic breast carcinoma with three or more of the following:
- KPS < 80, ECOG > 2
- LDH > 500
- Any liver metastasis
- 2 different sites of metastasis
- Disease free interval from presentation to metastases < 24 months
- Recurrent or refractory disease after initial chemoRx
- ER -, PR –

Metastatic breast carcinoma and brain metastases with one or more of the following:
- KPS < 80, ECOG > 2
- 2 or more brain metastases plus extracranial metastases
- ER -, PR –

**Brain (Glioblastoma)**

with one or more of the following:
- KPS < 70, ECOG > 2
- Suboptimal resection or unresectable
- Progressive or refractory despite initial treatment

with two or more of the following:
- KPS < 90, ECOG > 1
- Age > 55
- Recurrent disease after initial treatment
- Lesion in critical hemispheric region
- Tumor volume > 50cm³ before resection
- Hgb < 12
- Platelet count > upper limit of normal
**Colorectal**

Metastatic colorectal carcinoma with one or more of the following:
- KPS < 70, ECOG 2 or greater
- Age > 75
- Brain metastases with KPS < 80, age > 70

Metastatic colorectal carcinoma with two or more of the following:
- KPS < 90, ECOG 1 or greater
- Peritoneal carcinomatosis
- More than 2 metastatic sites
- Malignant ascites
- Refractory disease after chemoRx

**Esophageal/Gastric**

Locally advanced or metastatic esophageal/gastric with one or more of the following:
- KPS < 80, ECOG > 1
- Recurrent or refractory disease with disease-free interval < 6 months

Locally advanced or metastatic esophageal/gastric with two or more of the following:
- KPS < 90, ECOG 1 or greater
- Liver or peritoneal metastases
- Alkaline phosphatase > 100
- LDH > 200
- Hgb < 11
Hepatobiliary/Pancreatic Carcinoma

Locally advanced or metastatic biliary tract or pancreatic with one or more of the following:
- KPS < 90, ECOG 1 or greater
- Total bilirubin > 10
- Recurrent or refractory after initial chemoRx
- Liver, peritoneal, or distant metastases
- Portal vein thrombosis
- Albumin < 3.5
- LDH > 500
- Episode of DVT or PE
- Malignant ascites

Any hepatocellular carcinoma with one or more of the following:
- KPS < 60, ECOG > 2
- Tumor diameter > 10 cm
- Any brain metastasis

Unresectable locally advanced or metastatic hepatocellular carcinoma with two or more of the following:
- KPS < 90, ECOG 1 or greater
- Extrahepatic metastases
- Symptomatic cirrhosis:
  - Jaundice
  - Ascites
  - Fatigue
  - bleeding
- AFP > 400
- Portal vein thrombosis
Head and Neck Squamous Cell

Recurrent, refractory, or metastatic head and neck squamous cell carcinoma with one or more of the following:
- KPS < 90, ECOG 1 or greater
- Recurrence of disease with any metastasis
- Greater than 10% weight loss
- Muscle invasion or residual tumor at primary site
- Pretreatment Hgb < 11
- Ca++ > 11.2

Thyroid

Anaplastic thyroid cancer with one or more of the following:
- Extracapsular extension or metastases
- Unresectable disease or incomplete resection

Melanoma

Advanced or metastatic melanoma with one or more of the following:
- KPS < 80, ECOG 2 or greater
- LDH x 2 upper limit of normal
- Ca++ > 11.2
- Metastases to brain or spine
- Metastases to liver and one other site
NSCLC

Any locally advanced or metastatic NSCLC with one or more of the following:

- KPS < 70, ECOG > 2
- Weight loss of 5% or albumin < 3
- Liver metastases
- Bone metastases
- CNS metastases with symptoms, age > 65
- Pericardial involvement
- Pleural effusion with evidence of distant metastases
- Hgb < 12
- Ca > 11

(SCLC)

Extensive Disease: median survival 6-12 months with Rx, 4 months without Rx

Female Genital

Locally advanced or metastatic ovarian/endometrial/cervical with regional or distal spread and one or more of the following:

- KPS < 60, ECOG > 2
- Ca++ > 11.2
- 2 or more brain metastases
- Bowel obstruction without successful repair or urinary tract obstruction
- Unresectable disease

Locally advanced or metastatic ovarian/endometrial/cervical with regional or distal spread and two or more of the following:

- KPS < 80, ECOG > 1
- Recurrent or refractory disease
- Disease-free interval < 6 months (diagnosis to recurrence)
- Suboptimal resection with bulky residual disease
- Weight loss > 5%
- Extra-abdominal metastases
Male Genital

Hormone-refractory metastatic prostate cancer with one or more of the following:
- KPS < 60, ECOG > 2
- Hgb < 10
- Spinal cord compression with decreased ability to walk

Bladder and Renal Cell

Locally advanced or metastatic bladder or renal cell cancer with one or more of the following:
- KPS < 70, ECOG > 2
- Greater than 2 brain metastases
- Ca++ > 11.2

Locally advanced or metastatic bladder or renal cell cancer with three or more of the following:
- KPS < 80, ECOG 2 or greater
- Hgb < 11.5
- LDH > 300
- Disease-free interval < 1 year
- Visceral metastases
Solid Cancers in general

Any locally advanced or metastatic solid cancer with one or more of the following:
- KPS < 60, ECOG > 2
- Ca++ > 11.2
- Episode of DVT or PE
- Any brain metastasis with KPS < 70
- More than 2 brain metastases and extracranial metastasis
- Spinal cord compression with decreased ability to walk
- Malignant pericardial effusion

Unknown Primary

Any metastatic adenocarcinoma or undifferentiated carcinoma of unknown primary with one or more of the following:
- KPS < 80, ECOG > 1
- Hepatic, bone, or adrenal metastases
- Recurrence of disease after chemoRx
- Albumin < 3.5 or weight loss of > 10% in 6 months

Acute Leukemia

Acute Lymphoblastic or myeloid leukemia with one or more of the following:
- Age > 70
- Extramedullary disease involving Central Nervous System
- Refractory to 2 or more courses of chemoRx
- Recurrence with disease-free interval of < 14 months

Acute Lymphoblastic or myeloid leukemia with two or more of the following:
- Age > 60
- KPS < 80, ECOG 2 or greater
- Central Nervous System involvement
- Evidence of hemorrhage or infection
- WBC > 25
- LDH > 500
Chronic Leukemia

Chronic myeloid leukemia in blast transformation with one or more of the following:
- Age > 50 with predominant myeloid origin
- Myeloid blast transformation with WBC > 50, plt < 100, or Hgb <10
- Greater than 50% blasts in peripheral blood

Chronic lymphocytic leukemia with one or more of the following:
- Refractory to initial chemoRx
- Recurrent disease after 2 or more courses of chemoRx

Lymphoma/Multiple Myeloma

Non-Hodgkins lymphoma or multiple myeloma with one or more of the following:
- Secondary extranodal or extramedullary involvement of CNS
- Primary CNS lymphoma related to HIV

Aggressive non-Hodgkins lymphoma or multiple myeloma that is refractory or recurrent after initial treatment – with 2 or more of the following:
- KPS < 70, ECOG 2 or greater
- Age > 65
- LDH above normal
- albumin < 3
- multiple myeloma with plt < 80
- multiple myeloma with serum creatinine 2 or greater
Non-Cancer Presentations with a Median Survival of Six Months or Less

**Heart Failure**

Hospitalization for moderate to severe symptomatic heart failure (HF), NYHA (New York Heart Association) Class III or IV with three or more of the following:

- Age > 70
- Left Ventricular Ejection Fraction (LVEF) 20% or less
- Beta-type Natriuretic Peptide (BNP) > 950
- Cardiac troponin I > 0.4
- C-reactive protein > 3.5
- 4th hospitalization for CHF or repeat hospitalization within 2 months
- Dependency of 3 or more ADL (activities of daily living) or need for home care
- Weight loss of 2.3 kg or greater in 2 months or albumin< 2.5

History of:

- Cardiogenic shock
- Ventricular or supraventricular arrhythmia
- Cardiac arrest
- Cardiopulmonary resuscitation or
- Mechanical ventilation

- Systolic blood pressure < 110
- Creatinine > 2 or BUN > 40
- Sodium < 135

Cardiovascular disease:

- Ischemic cerebrovascular disease or
- Peripheral vascular disease

Other comorbid illness:

- Diabetes Mellitus
- Dementia
- COPD
- Cirrhosis
- Cancer
Dementia
Advanced dementia with dependency in all activities of daily living, bedbound status, urinary and bowel incontinence, decreased ability to communicate verbally, AND admission to a hospital or skilled nursing facility with one or more of the following:
- BMI < 18.5, decreased oral intake, or significant weight loss
- Presence of at least one pressure ulcer
- Evidence of at least one comorbid illness
- Male sex and age > 90
- Placement of a feeding tube due to inability to eat or history of aspiration

Geriatric Failure-to-Thrive
Age > 75, albumin < 3.5, dependency in 2 or more activities of daily living, AND admission to a hospital or skilled nursing facility with one or more of the following:
- Dependency in all activities of daily living with malnutrition
  (weight loss >10% or albumin < 3)
- Evidence of heart failure
- Creatinine > 3
- Evidence of delirium during hospitalization

End-Stage Renal Disease (ESRD)
ESRD on dialysis with age > 70 and 2 or more of the following:
- KPS < 50
- Significant comorbid condition such as
  - Coronary artery disease
  - Peripheral vascular disease
  - Heart failure
  - Cancer
- Malnutrition
  - BMI < 19.5 or albumin < 2.2
- Residence in a skilled nursing facility
- Admission to an intensive care unit for an acute illness
- Hip fracture with inability to ambulate

ESRD without dialysis with age > 70 and 1 or more of the following:
- Dialysis withheld due to decreased performance status and significant comorbidity

- Dialysis withdrawn due to advanced age, functional dependence, and comorbidity
Cirrhosis

Decompensated hepatic cirrhosis and 1 or more of the following:
- Child-Pugh 12 or greater
- MELD 21 or greater

Decompensated hepatic cirrhosis with hospitalization for an acute illness related to liver disease and 1 or more of the following:
- Child-Pugh 10 or greater
- MELD 18 or greater
- Child-Pugh 9 or greater AND dependency in 3 or more ADL AND malnutrition (significant weight loss and albumin < 2.5)
- Hospitalization in an intensive care unit related to severe decompensation of liver disease, with hypotension requiring the use of vasopressors, creatinine > 1.5, OR evidence of jaundice
- Evidence of hepatopulmonary syndrome or rapidly progressive hepatorenal syndrome

Chronic Obstructive Pulmonary Disease (COPD)

Hospitalization for a severe COPD exacerbation with hypoxemia (paO2 < 55), hypercapnia (pCO2 > 50), dependence on supplemental O2, and 3 or more of the following:
- Age > 70
- Evidence of cor pulmonale
- Repeat hospitalization within 2 months
- History of intubation/mechanical ventilation
- KPS < 60
- Need for home care after discharge
- Malnutrition (weight loss > 2.3 kg, albumin < 2.5, or BMI < 18
- Creatinine > 2
Mortality Prediction at 3 months and 1 year

**Comorbidity:** Charlson Index
- 0-4: 0 points
- 5-7: 1 point
- 8 or greater: 2 points

**Obstruction:** FEV1%
- 65 or greater: 0 points
- 50-64: 1 point
- 36-49: 2 points
- 35 or less: 3 points

**Dyspnea:** mMRC = modified medical research council dyspnea scale
- 0-1: 0 points
- 2: 1 point
- 3: 2 points
- 4: 3 points

**Exacerbation:** exacerbations during the previous year (requiring ED visit and/or hospitalization)
- 0: 0 points
- 1-2: 1 point
- 3 or more: 2 points

Score 1-10

<table>
<thead>
<tr>
<th>Score</th>
<th>Predicted 3 month mortality (%)</th>
<th>Predicted 1 year mortality (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>18</td>
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<tr>
<td>6</td>
<td>8</td>
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<td>7</td>
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<td>25</td>
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<td>8</td>
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<td>9</td>
<td>18</td>
<td>35</td>
</tr>
<tr>
<td>10</td>
<td>20</td>
<td>50</td>
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</table>
Mortality Prediction at 4 years

<table>
<thead>
<tr>
<th>Variable</th>
<th>BODE Index points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Body Mass Index (BMI)</strong></td>
<td></td>
</tr>
<tr>
<td>More than 21</td>
<td>0</td>
</tr>
<tr>
<td>21 or less</td>
<td>1</td>
</tr>
<tr>
<td><strong>Obstruction</strong></td>
<td></td>
</tr>
<tr>
<td>FEV1% - 65 or greater</td>
<td>0</td>
</tr>
<tr>
<td>FEV1% 50-64</td>
<td>1</td>
</tr>
<tr>
<td>FEV1% 36-49</td>
<td>2</td>
</tr>
<tr>
<td>FEV1% 35 or less</td>
<td>3</td>
</tr>
<tr>
<td><strong>Dyspnea</strong></td>
<td></td>
</tr>
<tr>
<td>mMRC 0-1</td>
<td>0</td>
</tr>
<tr>
<td>mMRC 2</td>
<td>1</td>
</tr>
<tr>
<td>mMRC 3</td>
<td>2</td>
</tr>
<tr>
<td>mMRC 4</td>
<td>3</td>
</tr>
<tr>
<td><strong>Exercise</strong></td>
<td></td>
</tr>
<tr>
<td>6-minute Walk Test (meters)</td>
<td></td>
</tr>
<tr>
<td>350 or more</td>
<td>0</td>
</tr>
<tr>
<td>250-349</td>
<td>1</td>
</tr>
<tr>
<td>150-249</td>
<td>2</td>
</tr>
<tr>
<td>149 or less</td>
<td>3</td>
</tr>
</tbody>
</table>

Score 1-10

Approximate 4-year mortality (%)

<table>
<thead>
<tr>
<th>BODE Score</th>
<th>4-year mortality (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>20</td>
</tr>
<tr>
<td>3-4</td>
<td>33</td>
</tr>
<tr>
<td>5-6</td>
<td>43</td>
</tr>
<tr>
<td>7-10</td>
<td>82</td>
</tr>
</tbody>
</table>
Prognostic Index: Liver Disease

**Child-Pugh Score**

<table>
<thead>
<tr>
<th>Class</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class A</td>
<td>5-6 points</td>
</tr>
<tr>
<td>Class B</td>
<td>7-9 points</td>
</tr>
<tr>
<td>Class C</td>
<td>10-15 points</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum bilirubin</td>
<td></td>
</tr>
<tr>
<td>&lt;2</td>
<td>1</td>
</tr>
<tr>
<td>2-3</td>
<td>2</td>
</tr>
<tr>
<td>&gt;3</td>
<td>3</td>
</tr>
<tr>
<td>Serum albumin</td>
<td></td>
</tr>
<tr>
<td>3.5 or greater</td>
<td>1</td>
</tr>
<tr>
<td>3-3.5</td>
<td>2</td>
</tr>
<tr>
<td>Less than 3</td>
<td>3</td>
</tr>
<tr>
<td>Prothrombin time (INR)</td>
<td></td>
</tr>
<tr>
<td>Less than 1.7</td>
<td>1</td>
</tr>
<tr>
<td>1.7-2.3</td>
<td>2</td>
</tr>
<tr>
<td>2.3 or greater</td>
<td>3</td>
</tr>
<tr>
<td>Ascites</td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>1</td>
</tr>
<tr>
<td>Slight</td>
<td>2</td>
</tr>
<tr>
<td>Moderate</td>
<td>3</td>
</tr>
<tr>
<td>Encephalopathy</td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>1</td>
</tr>
<tr>
<td>Minimal</td>
<td>2</td>
</tr>
<tr>
<td>Advanced</td>
<td>3</td>
</tr>
</tbody>
</table>
PCN Heart Failure Risk Scoring System (HFRSS)

Disease-Specific, Non-Cancer Heart Failure
Community and Teaching Hospitals within 24 hours of admission (excludes > 105 years old and non-residents)

Survival/Mortality Prediction at 30 days and 1-year

<table>
<thead>
<tr>
<th>Start with age in years as initial score:</th>
<th>30 day</th>
<th>1-year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Respiratory Rate</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>180 or more</td>
<td>-60</td>
<td>-50</td>
</tr>
<tr>
<td>160-179</td>
<td>-55</td>
<td>-45</td>
</tr>
<tr>
<td>140-159</td>
<td>-50</td>
<td>-40</td>
</tr>
<tr>
<td>120-139</td>
<td>-45</td>
<td>-35</td>
</tr>
<tr>
<td>100-119</td>
<td>-40</td>
<td>-30</td>
</tr>
<tr>
<td>90-99</td>
<td>-35</td>
<td>-25</td>
</tr>
<tr>
<td>Less than 90</td>
<td>-30</td>
<td>-20</td>
</tr>
<tr>
<td><strong>Systolic BP</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>180 or more</td>
<td>-60</td>
<td>-50</td>
</tr>
<tr>
<td>160-179</td>
<td>-55</td>
<td>-45</td>
</tr>
<tr>
<td>140-159</td>
<td>-50</td>
<td>-40</td>
</tr>
<tr>
<td>120-139</td>
<td>-45</td>
<td>-35</td>
</tr>
<tr>
<td>100-119</td>
<td>-40</td>
<td>-30</td>
</tr>
<tr>
<td>90-99</td>
<td>-35</td>
<td>-25</td>
</tr>
<tr>
<td>Less than 90</td>
<td>-30</td>
<td>-20</td>
</tr>
<tr>
<td><strong>Blood Urea Nitrogen (max 60 mg/dl)</strong></td>
<td>+ level in mg/dl</td>
<td>+ level in mg/dl</td>
</tr>
<tr>
<td>Serum Sodium less than 136 meq/l</td>
<td>+10</td>
<td>+10</td>
</tr>
<tr>
<td>Cerebrovascular Disease</td>
<td>+10</td>
<td>+10</td>
</tr>
<tr>
<td>Dementia</td>
<td>+20</td>
<td>+15</td>
</tr>
<tr>
<td>Chronic Obstructive Pulmonary Disease</td>
<td>+10</td>
<td>+10</td>
</tr>
<tr>
<td>Cirrhosis</td>
<td>+25</td>
<td>+35</td>
</tr>
<tr>
<td>Cancer</td>
<td>+15</td>
<td>+15</td>
</tr>
<tr>
<td>Hemoglobin less than 10 g/dl</td>
<td>NA</td>
<td>+10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>HFRSS Score</th>
<th>30 day mortality (%)</th>
<th>1-year mortality (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Low</td>
<td>less than 60</td>
<td>0.5</td>
<td>5-8</td>
</tr>
<tr>
<td>Low</td>
<td>61-90</td>
<td>3-4</td>
<td>12-15</td>
</tr>
<tr>
<td>Intermediate</td>
<td>91-120</td>
<td>12-15</td>
<td>30</td>
</tr>
<tr>
<td>High</td>
<td>121-150</td>
<td>30</td>
<td>55-60</td>
</tr>
<tr>
<td>Very High</td>
<td>more than 150</td>
<td>50-60</td>
<td>75</td>
</tr>
</tbody>
</table>
# Prognosis Assessment: PLAN Clinical Prediction Rule

## Population:
Hospital admission acute ischemic stroke without thrombolysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preadmission medical comorbidities</strong></td>
<td></td>
</tr>
<tr>
<td>ADL dependence</td>
<td>1.5</td>
</tr>
<tr>
<td>Cancer</td>
<td>1.5</td>
</tr>
<tr>
<td>CHF</td>
<td>1.0</td>
</tr>
<tr>
<td>Atrial Fibrillation</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Level of consciousness</strong></td>
<td></td>
</tr>
<tr>
<td>Reduced</td>
<td>5.0</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
</tr>
<tr>
<td>One point per decade (max = 10)</td>
<td></td>
</tr>
<tr>
<td><strong>Neurologic deficit</strong></td>
<td></td>
</tr>
<tr>
<td>Arm weakness</td>
<td>2.0</td>
</tr>
<tr>
<td>Leg weakness</td>
<td>2.0</td>
</tr>
<tr>
<td>Neglect or aphasia</td>
<td>1.0</td>
</tr>
</tbody>
</table>

| Correlation of PLAN Score to                  | 30 day and | 1 year | m-R* of 5 or 6 (%) |
|mortality %                                    |            |        |                   |
| Less than 6                                   | 0.7        | 2.1    | 0.9               |
| 6                                             | 1.9        | 4.8    | 1.2               |
| 7                                             | 1.4        | 4.5    | 1.3               |
| 8                                             | 2.1        | 6.4    | 2.5               |
| 9                                             | 4.4        | 13.1   | 4.3               |
| 10                                            | 4.4        | 16.2   | 6.0               |
| 11                                            | 7.6        | 21.7   | 9.8               |
| 12                                            | 10.9       | 26.3   | 14.8              |
| 13                                            | 15.3       | 32.0   | 20.3              |
| 14                                            | 21.7       | 42.2   | 30.7              |
| 15                                            | 29.3       | 46.0   | 35.8              |
| 16                                            | 35.4       | 57.7   | 43.9              |
| 17                                            | 42.5       | 63.3   | 54.4              |
| 18                                            | 50.5       | 74.3   | 65.0              |
| 19                                            | 61.2       | 73.8   | 73.2              |
| More than 19                                   | 65.9       | 83.6   | 78.4              |

*= modified Rankin score
Mortality Prediction at 3 months and 1 year for patients receiving prolonged mechanical ventilation – measured on day #21 of mechanical ventilation

One (1) point each for:

- Age 50 years or more
- Vasopressor
- Platelet count 150,000 or less
- Hemodialysis or CRRT

<table>
<thead>
<tr>
<th>Score</th>
<th>Observed 3 month mortality (%)</th>
<th>Observed 1 year mortality (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>1</td>
<td>29</td>
<td>42</td>
</tr>
<tr>
<td>2</td>
<td>77</td>
<td>88</td>
</tr>
<tr>
<td>3</td>
<td>91</td>
<td>95</td>
</tr>
<tr>
<td>4</td>
<td>95</td>
<td>100</td>
</tr>
<tr>
<td>Components</td>
<td>Points</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>Glasgow Coma Scale (GCS)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-4</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>5-12</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>13-15</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>ICH volume, cm³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 or more</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Less than 30</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Intra-ventricular hemorrhage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Infra-tentorial origin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Age, years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80 or more</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Less than 80</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Score 0-6

30-day mortality (%) correlated with ICH score:

<table>
<thead>
<tr>
<th>Score</th>
<th>30-day Mortality (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>25</td>
</tr>
<tr>
<td>3</td>
<td>75</td>
</tr>
<tr>
<td>4</td>
<td>95</td>
</tr>
<tr>
<td>5</td>
<td>99</td>
</tr>
<tr>
<td>6</td>
<td>100</td>
</tr>
</tbody>
</table>
## PCN Survival Postresuscitation – In-Hospital Cardiac Arrest (CASPRI)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, years</td>
<td></td>
</tr>
<tr>
<td>59 or less</td>
<td>0</td>
</tr>
<tr>
<td>60-69</td>
<td>1</td>
</tr>
<tr>
<td>70-79</td>
<td>2</td>
</tr>
<tr>
<td>80 or older</td>
<td>4</td>
</tr>
<tr>
<td>Initial Rhythm VF/VT</td>
<td></td>
</tr>
<tr>
<td>Time to initial defibrillation</td>
<td></td>
</tr>
<tr>
<td>3 minutes or less</td>
<td>0</td>
</tr>
<tr>
<td>4-5 minutes</td>
<td>2</td>
</tr>
<tr>
<td>5 minutes or more</td>
<td>3</td>
</tr>
<tr>
<td>Initial Rhythm PEA</td>
<td>6</td>
</tr>
<tr>
<td>Initial Rhythm Asystole</td>
<td>7</td>
</tr>
<tr>
<td>Prearrest CPC score</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3 or more</td>
<td>9</td>
</tr>
<tr>
<td>Location of arrest</td>
<td></td>
</tr>
<tr>
<td>Telemetry unit</td>
<td>0</td>
</tr>
<tr>
<td>Intensive Care Unit</td>
<td>1</td>
</tr>
<tr>
<td>Non-monitored unit</td>
<td>3</td>
</tr>
<tr>
<td>Duration of Resuscitation (minutes)</td>
<td></td>
</tr>
<tr>
<td>4 or less</td>
<td>0</td>
</tr>
<tr>
<td>5-9</td>
<td>3</td>
</tr>
<tr>
<td>10-14</td>
<td>5</td>
</tr>
<tr>
<td>15-19</td>
<td>6</td>
</tr>
<tr>
<td>20-24</td>
<td>6</td>
</tr>
<tr>
<td>25-29</td>
<td>6</td>
</tr>
<tr>
<td>30 or more</td>
<td>8</td>
</tr>
<tr>
<td>Factors present prior to arrest</td>
<td></td>
</tr>
<tr>
<td>Mechanical ventilation</td>
<td>3</td>
</tr>
<tr>
<td>Renal insufficiency</td>
<td>2</td>
</tr>
<tr>
<td>Hepatic insufficiency</td>
<td>4</td>
</tr>
<tr>
<td>Sepsis</td>
<td>3</td>
</tr>
<tr>
<td>Cancer</td>
<td>4</td>
</tr>
<tr>
<td>Hypotension</td>
<td>3</td>
</tr>
</tbody>
</table>

 Predictor Points correlated with likelihood (mean survival %) of survival to hospital discharge

<table>
<thead>
<tr>
<th>Points</th>
<th>Survival %</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>82.6</td>
</tr>
<tr>
<td>5-9</td>
<td>66.6</td>
</tr>
<tr>
<td>10-14</td>
<td>42.0</td>
</tr>
<tr>
<td>15-19</td>
<td>23.1</td>
</tr>
<tr>
<td>20-24</td>
<td>12.3</td>
</tr>
<tr>
<td>25-29</td>
<td>5.2</td>
</tr>
<tr>
<td>30-34</td>
<td>2.1</td>
</tr>
<tr>
<td>&gt;34</td>
<td></td>
</tr>
</tbody>
</table>

35 points or more = 0% survival to discharge
PCN Cerebral Performance Category after Resuscitation Attempt (GO-FAR)

GO-FAR: **Good Outcome Following Attempted Resuscitation**

<table>
<thead>
<tr>
<th>Variable</th>
<th>GO-FAR Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurologically intact or with minimal deficits at admission</td>
<td>-15</td>
</tr>
<tr>
<td>Major trauma</td>
<td>10</td>
</tr>
<tr>
<td>Acute stroke</td>
<td>8</td>
</tr>
<tr>
<td>Acute stroke</td>
<td>8</td>
</tr>
<tr>
<td>Metastatic or hematologic cancer</td>
<td>7</td>
</tr>
<tr>
<td>Documented bloodstream infection</td>
<td>7</td>
</tr>
<tr>
<td>Medical noncardiac diagnosis</td>
<td>7</td>
</tr>
<tr>
<td>Hepatic insufficiency</td>
<td>6</td>
</tr>
<tr>
<td>Bilirubin &gt;2 mg/dl</td>
<td></td>
</tr>
<tr>
<td>AST &gt; 2x normal</td>
<td></td>
</tr>
<tr>
<td>Cirrhosis</td>
<td></td>
</tr>
<tr>
<td>Admit from skilled nursing facility</td>
<td>6</td>
</tr>
<tr>
<td>Hypotension or hypoperfusion</td>
<td>5</td>
</tr>
<tr>
<td>Mean BP &lt; 60</td>
<td></td>
</tr>
<tr>
<td>Vasopressor</td>
<td></td>
</tr>
<tr>
<td>IABP</td>
<td></td>
</tr>
<tr>
<td>Renal insufficiency or dialysis/CRRT</td>
<td>4</td>
</tr>
<tr>
<td>Serum creatinine &gt; 2 mg/dl</td>
<td></td>
</tr>
<tr>
<td>Respiratory insufficiency</td>
<td>4</td>
</tr>
<tr>
<td>Intubation/mechanical ventilation</td>
<td></td>
</tr>
<tr>
<td>NIPPV</td>
<td></td>
</tr>
<tr>
<td>PaO2/FiO2 &lt; 300</td>
<td></td>
</tr>
<tr>
<td>PaCO2 &gt; 50 mmHg</td>
<td></td>
</tr>
<tr>
<td>PaO2 &lt; 60</td>
<td></td>
</tr>
<tr>
<td>Pneumonia</td>
<td>1</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>70-74</td>
<td>2</td>
</tr>
<tr>
<td>75-79</td>
<td>5</td>
</tr>
<tr>
<td>80-84</td>
<td>6</td>
</tr>
<tr>
<td>85 or older</td>
<td>11</td>
</tr>
</tbody>
</table>

GO-FAR Score correlated with % of survivors with CPC of 1 (chances for “good outcome”)

<table>
<thead>
<tr>
<th>GO-FAR Score</th>
<th>% of Survivors</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 or more</td>
<td>0.8</td>
<td>(very low – less than 1%)</td>
</tr>
<tr>
<td>14-23</td>
<td>2.0</td>
<td>(low – 1-3%)</td>
</tr>
<tr>
<td>-5 to 13</td>
<td>9.2</td>
<td>(average – 3-15%)</td>
</tr>
<tr>
<td>-15 to -6</td>
<td>27.8</td>
<td>(above average – more than 15%)</td>
</tr>
</tbody>
</table>
General End-Stage Disease Guidelines

Changes in clinical variables apply to patients whose decline is not considered reversible

Documented decline in functional status (both should be met)

1. Assistance needed with at least 2 ADLs (toilet, feed, dress, groom, walk, bathe)
2. Decline in PPS to less than 70%

Decline in nutritional status

Unintentional progressive weight loss (10% over 6 months)
Serum albumin < 2.5 gm/dl
Dysphagia leading to recurrent aspiration and/or inadequate intake

Increased ED visits, physician visits, or hospitalizations related to primary hospice diagnosis

Multiple co-morbidities

Goal for palliative care

Adult “failure to thrive”

PPS < 50%
BMI < 22

Declining enteral or parenteral nutrition support or has not responded to such nutritional support, despite adequate caloric intake
Dementia

The patient has dementia which has progressed to:
- FAST stage 7 or beyond
- Unable to ambulate without assistance
- Unable to dress without assistance
- Unable to bathe without assistance
- Urinary and fecal incontinence, intermittent or constant
- No meaningful verbal communication
  - Stereotypical phrases only
  - Ability to speak is limited to six or fewer intelligible words

AND

The patient must have had one of the following within the past 12 months
- Aspiration pneumonia
- Pyelonephritis or other upper urinary tract infection
- Septic episode
- Decubitus ulcers, multiple, stage 3-4
- Fever, recurrent after antibiotics
- Inability to maintain sufficient fluid and calorie intake
Liver Disease

The patient has end-stage liver disease demonstrated by:

- Prothrombin time $>5$ sec – OR - INR $>1.5$ – AND - serum albumin $<2.5$ gm/dl

AND:

One or more of the following:

- Refractory ascites
- History of SBP
- Hepatorenal syndrome
- Refractory hepatic encephalopathy
- History of recurrent variceal bleeding

Additional supporting documentation:

- Progressive malnutrition
- Muscle wasting with reduced strength and endurance
- Continued active alcoholism ($>80$ gm alcohol/day)
- Hepatocellular carcinoma
- Hepatitis B positivity
Neurologic Disease

ALS
Parkinsons
Muscular Dystrophy
Myasthenia Gravis
Multiple Sclerosis
Neuromuscular Disease

Meet at least one of the following criteria:

1. Critically impaired breathing capacity – all of following:
   a. Dyspnea at rest
   b. Vital capacity < 30%
   c. Requires oxygen at rest
   d. Declines mechanical ventilation

2. Rapid disease progression:
   a. Independent ambulation to wheelchair or bed-bound status
   b. Normal to barely intelligible or unintelligible speech
   c. Normal to pureed diet
   d. Independence in most ADLs to needing major assistance in all ADLs

   AND

   Critical nutritional impairment – all of the following in the last 12 months:
   a. Oral intake of nutrients and fluids insufficient to sustain life
   b. Continuing weight loss
   c. Dehydration or hypovolemia
   d. Absence of artificial feeding methods

3. Rapid disease progression:
   a. Independent ambulation to wheelchair or bed-bound status
   b. Normal to barely intelligible or unintelligible speech
   c. Normal to pureed diet
   d. Independence in most ADLs to needing major assistance in all ADLs

   AND

   Life threatening complications – one or more of the following in the last 12 months:
   a. Recurrent aspiration pneumonia
   b. Pyelonephritis
   c. Sepsis or recurrent fever
   d. Stage 3 or 4 decubitus ulcer(s)
Heart Disease/Cardiovascular

The patient has 1 and either 2 or 3:

1. CHF with NYHA class IV symptoms and both:
   a. Significant symptoms at rest
   b. Inability to carry out even minimal physical activity without dyspnea or angina

2. Patient is optimally treated with diuretics and vasodilators including ACEI

3. The patient has angina pectoris at rest, resistant to medical therapy, and is either not a candidate for/or has declined invasive procedures.

Supporting documentation:
- EF < 20%
- Treatment resistant dysrhythmias
- Cardiac-related syncope
- Stroke related to cardiac embolism
- History of CPR
- Concomitant HIV
HIV/AIDS

The patient has either 1A or 1B; AND 2 AND 3

1A. CD4+ < 25
1B. viral load > 100,000
2. At least one of the following:
   CNS lymphoma
   Untreated or refractory wasting (loss of > 33% lean body mass)
   MAC bacteremia
   PML
   Systemic lymphoma
   Visceral KS
   Renal failure, no HD
   Cryptosporidium infection
   Refractory toxoplasmosis

3. PPS < 50%
Pulmonary Disease

The patient has:

Disabling dyspnea at rest or with minimal exertion and little or no response to bronchodilators, resulting in decreased functional capacity, fatigue, cough, AND

Progression of end-stage pulmonary disease, as evidenced by prior increasing visits to the emergency department or prior hospitalizations for pulmonary infections and/or respiratory failure, AND

Room air findings of hypoxemia, as evidenced by pO2 < 55 mmHg and oxygen saturation < 88% or hypercapnia as evidenced by pCO2 > 50 mmHg

Cor pulmonale and right heart failure secondary to pulmonary disease (not secondary to left heart disease or valvulopathy)

Unintentional progressive weight loss greater than 10% of body weight over the preceding six months

Resting tachycardia > 100 bpm
Renal Failure

A patient has:

Acute renal failure OR
Chronic renal failure (ESRD) AND

The patient is not undergoing dialysis AND
Creatinine clearance < 10 cc/min OR
Serum creatinine > 8 mg/dl (6 for diabetics)

Supporting documentation:
Mechanical ventilation
Malignancy
Chronic lung disease
Advanced cardiac disease
Advanced liver disease
Sepsis
Immunosuppression/AIDS
Albumin < 3.5 gm/dl
Cachexia
Platelet count < 25,000
Disseminated Intravascular Coagulation (DIC)
Gastrointestinal bleeding
Uremia
Oliguria (<400 cc/day)
Intractable hyperkalemia (>7.0) not responsive to treatment
Uremic pericarditis
Hepatorenal syndrome
Intractable fluid overload
**Stroke and Coma**

Acute hemorrhagic or ischemic stroke

Poor functional status (PPS < 50 %)  AND  
Poor nutritional status with inability to maintain sufficient fluid and calorie intake as evidenced by one  
or more of the following:  

- 10% or more weight loss in past 6 months  
- 7.5% or more weight loss in past 3 months  
- Serum albumin < 2.5 gm/dl  
- Current history of pulmonary aspiration without effective response  
  to speech therapy interventions to improve dysphagia  
  and decrease aspiration events

**Supporting documentation:**

- Coma or persistent vegetative state secondary to stroke, beyond 3 days duration  
- Coma or severe obtundation, secondary to post-anoxic stroke  
  accompanied by severe myoclonus, persisting beyond 3 days after the anoxic event  
- Chronic phase of hemorrhagic or ischemic stroke evidenced by:  
  - Post stroke dementia, FAST stage 7 or beyond  
  - Poor functional status with KPS %0% or less  

- Coma (any etiology) with any 3 of the following on day three of coma:  
  - Abnormal brainstem response  
  - Absent verbal response  
  - Absent withdrawal response to pain  
  - Serum creatinine > 1.5 mg/dl
PCN Hospice Diagnosis/Category Criteria Examples

Cancer

Clinical findings of malignancy with widespread, aggressive, or progressive disease
as evidenced by increasing symptoms, worsening lab values, and/or evidence of metastatic
disease
AND
PPS 70 % or less
AND
Refuses further life-prolonging therapy or continues to decline in spite of definitive therapy
(may receive disease-specific intervention if palliative)

The following cancer disease categories are considered hospice appropriate due to the small probability
that treatment would result in cure or cessation of disease:

Category 3: malignancies that are treatable but incurable when metastatic in a large percentage of
patients, with favorable prognosis:
prostate, breast, CLL, CML, NHL, multiple myeloma, myelodysplastic syndrome
(often may be controlled for periods of time with hormonal and/or chemotherapy, may require
no therapy or are only treated when symptoms occur, generally have a history of having
received and failed one or more standard therapeutic regimens and should have symptoms
compatible with disease progression before considering hospice option)

Category 4: malignancies that are treatable in only a small percentage of patients with less favorable
prognosis:
invasive bladder, glioblastoma, gynecological carcinomas other than ovary, colorectal, gastric,
head and neck, esophageal, NSCLC, soft tissue sarcoma
(majority are adult solid tumors, presence of metastatic disease generally indicative of a
terminal prognosis, usually 40% or less of patients have an objective response to chemotherapy,
chemotherapy responses are usually not durable, impact of chemotherapy on symptoms and
quality of life not well documented in medical literature, as chemotherapy is of limited benefit
to most patients once these diseases have metastasized such patients could be offered the
option of hospice in lieu of chemotherapy, if chemotherapy is chosen by the patient as a
therapeutic option, failure of first-line therapy should prompt serious consideration of hospice)

Category 5 malignancies that are virtually untreatable:
renal cell, pancreatic, malignant melanoma
(generally resistant to currently available chemotherapy, with the lack of efficacious systemic
therapy – patients with these diseases and have metastatic disease should be offered hospice
As an option)
Syndrome of Imminent Death

Early
  Bed-bound
  Loss of interest
  Loss of ability to eat/drink
  Increased time sleeping
  +/- delirium

Middle
  Obtunded
  Oral secretions (“rattle”)

Late
  Coma
  Fever
  Aspiration
  Altered respiratory pattern
  Mottling
PCN EOL Management Palliative Sedation

Confirm that goal of care is comfort
Advanced terminal illness
Suffering severe refractory physical or neuropsychiatric symptoms – or – psychosocial problems
Order to withhold life-sustaining interventions
Informed consent
Document all of above, inform clinical team

Specify loading dose, infusion, bolus doses

Midazolam
- 0.3-0.5 mg/kg over 2-5 minutes
- Infusion 0.02-0.1 mg/kg/hr
- Additional boluses = hourly infusion rate

Propofol
- (central venous catheter only)
- Start infusion 2.5-5.0 mcg/kg/min (10-20 mg/hr)
- Bolus doses 10-20 mg q 10 min

Pentobarbital
- Loading dose 2-3 mg/kg
- Infusion 1-2 mg/kg/hr
<table>
<thead>
<tr>
<th>Drug</th>
<th>Bolus (mg)</th>
<th>Infusion (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine Sulfate</td>
<td>2.5-5 q 4h</td>
<td>15-30/24 h</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>2-5 q 4h</td>
<td>15/24 h</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>use infusion</td>
<td>0.150-0.300/24 h</td>
</tr>
<tr>
<td>Midazolam</td>
<td>2.5 q 4h</td>
<td>20-40/24 h</td>
</tr>
<tr>
<td>Haloperidol</td>
<td>0.5-2.5 q 6-8 h</td>
<td>5-25/24 h</td>
</tr>
<tr>
<td>Phenobarbital</td>
<td>60 q 6-8 h</td>
<td>200-1000/24 h</td>
</tr>
<tr>
<td>Metoclopramide</td>
<td>10 q 6 h</td>
<td>30-100/24 h</td>
</tr>
<tr>
<td>Hyoscine</td>
<td>0.3-0.6 q 2-4 h</td>
<td>0.6-2.4/24 h</td>
</tr>
<tr>
<td>Glycopyrrolate</td>
<td>0.2-0.4 q 4-6 h</td>
<td>0.6-1.2/24 h</td>
</tr>
<tr>
<td>Octreotide</td>
<td>0.1-0.2 q 8 h</td>
<td>0.3-0.6/24 h</td>
</tr>
</tbody>
</table>
DNAR

Patient Categories/Hierarchy of Decision-makers

DNAR: Do-Not-Attempt-Resuscitation

Basically healthy
  20-40% survival
  + benefit

Advanced/Chronic Illness
  5-20% survival
  +/- benefit

Imminent death
  0%
  0 benefit

Hierarchy of decision-makers:
  Capable patient
  DPOAHC
  Legal guardian
  Spouse
  Adult children
  Parents
  Adult sibling(s)
  Grand-parents
  Other
1. Use a multidrug approach. Combine opioids with nonopioids and adjuvant medications.

2. Base administration schedule on the analgesic’s duration of effect. Best to use sustained-release opioids for scheduled dosing and immediate-release opioids for rescue or breakthrough dosing.

3. In opioid-naive patients, start with low-dose, short-acting opioids and titrate for effect.

4. Avoid meperidine (Demerol), propoxyphene (Darvon), and the mixed agonist-antagonist opioids (eg, Stadol, Nubain, Talwin). Do not exceed 4000 mg of acetaminophen (APAP) in 24 hours.

5. Noninvasive routes preferred. For severe pain or rapidly escalating pain, it may be necessary to provide IV analgesics until the pain is managed. If oral or transdermal dosing is no longer practical or appropriate, continuous subQ or IV infusions are indicated.

6. Mild pain (rating 1-3): Start with simple analgesics, APAP or NSAIDS, with adjuvant analgesics as appropriate.

7. Moderate to severe pain (rating 4-10): When pain does not respond to nonopioid analgesics and adjuvants, consider adding an opioid. Drugs with APAP, ASA, or NSAIDS in combination with opioids limit flexibility of dosing.

8. Titration: Increase by 25% to 50% for moderate pain; increase by 50% to 100% for severe pain. Or calculate the average dose of breakthrough medication per day and add to the sustained-release medication dose (except when breakthrough is taken for incident pain).

9. Breakthrough: Scheduled dosing will maintain stable serum drug levels and provide consistent relief. Patients receiving long-acting opioids or continuous parenteral infusions must have an order for breakthrough pain medication. Frequent breakthrough dosing requires a change in the sustained-release drug dose. Oral breakthrough dose is 10% to 20% of the oral 24-hour baseline dose. Peak effect of immediate-release opioid is ~ 1 hour; may repeat dose every hour if patient is not sedated. IV/SQ breakthrough dose is 50% to 100% of the hourly IV/SQ rate. Peak effect of IV opioids is 10-15 minutes; may repeat dose every 15 minutes if patient
10. not sedated. Peak effect of SQ opioids is 30 minutes; may repeat dose every 30 minutes if patient not sedated. Intramuscular dosing not recommended.

11. When changing drug or route of administration, use equianalgesic doses. If changing from one drug to another, the new drug may be more effective because of differences of potency or drug availability. Start at 2/3 to 3/4 of the amount calculated by using equianalgesic tables. Make sure breakthrough medication is available and titrate dose according to individual response.

Manage opioid adverse effects. Patients never become tolerant to the constipating effects of opioids. Always start stimulant laxative/softener combination with opioids
<table>
<thead>
<tr>
<th>Opioid Conversion (Miscellaneous)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine Sulfate (MS) 30 mg PO = 10 mg IV (3:1)</td>
</tr>
<tr>
<td>Hydromorphone (HM) 7.5 mg PO = 1.5 mg IV (5:1)</td>
</tr>
<tr>
<td>Oxycodone (OX) 0.66 mg PO = MS 1 mg PO</td>
</tr>
<tr>
<td>Fentanyl (FT) 1 mcg/hr = 2 mg Oral Morphine Equivalent (OME)</td>
</tr>
<tr>
<td>Codeine 30 mg PO = MS 4.5 mg PO</td>
</tr>
<tr>
<td>Tramadol 50 mg PO = MS 10 mg PO</td>
</tr>
</tbody>
</table>
Converting Opioids:  Point A to Point B

M=morphine, H=hydromorphone, X=oxycodone, F=fentanyl, MET=methadone
O=oral, V=intravenous, T=transdermal

1:  all doses in mg unless otherwise noted
2:  note 100 mcg = 0.1 mg
3.  dose in mcg/hr

---

<table>
<thead>
<tr>
<th>A: CURRENT</th>
<th>B: DESIRED</th>
<th>MO (&quot;OME&quot;)</th>
<th>MV</th>
<th>HO</th>
<th>HV</th>
<th>XO</th>
<th>FV^2</th>
<th>FT^3 (MCG/HR)</th>
<th>METO</th>
<th>METV</th>
</tr>
</thead>
<tbody>
<tr>
<td>MO (&quot;OME&quot;)</td>
<td>---</td>
<td>1/3</td>
<td>1/4</td>
<td>1/20</td>
<td>2/3</td>
<td>1/300</td>
<td>1/2</td>
<td>1/4</td>
<td>OME/24°&lt; 90</td>
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</tr>
<tr>
<td>MV</td>
<td>3/1</td>
<td>---</td>
<td>3/4</td>
<td>1/7</td>
<td>2/1</td>
<td>1/100</td>
<td>3/2</td>
<td></td>
<td>OME/24°&gt; 90</td>
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<tr>
<td>HO</td>
<td>4/1</td>
<td>4/3</td>
<td>---</td>
<td>1/5</td>
<td>3/1</td>
<td>1/75</td>
<td>2/1</td>
<td></td>
<td>OME/24°90-300</td>
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</tr>
<tr>
<td>HV</td>
<td>20/1</td>
<td>7/1</td>
<td>5/1</td>
<td>---</td>
<td>14/1</td>
<td>1/15</td>
<td>10/1</td>
<td></td>
<td>OME/24°300</td>
<td></td>
</tr>
<tr>
<td>XO</td>
<td>3/2</td>
<td>1/2</td>
<td>1/3</td>
<td>1/14</td>
<td>---</td>
<td>1/200</td>
<td>3/4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FV</td>
<td>300/1</td>
<td>100/1</td>
<td>75/1</td>
<td>15/1</td>
<td>200/1</td>
<td>---</td>
<td>150/1</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>FT^3 (MCG/HR)</td>
<td>2/1</td>
<td>2/3</td>
<td>1/2</td>
<td>1/10</td>
<td>4/3</td>
<td>1/150</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>METO</td>
<td>5/1</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1/2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>METV</td>
<td>13.5/1</td>
<td>1.3/1</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A:  Find current drug (Point A) in far left column
B:  Find desired drug (Point B) in top row

Intersection of A and B in table defines conversion ratio
Dose desired drug (B) = Dose current drug (A) x conversion ratio

Calculated dose represents an estimated equianalgesic dose. Significant individual patient variation should be expected. The actual dose of the desired drug to administer should be adjusted for a variety of factors including but not limited to: age, pain intensity, cross-tolerance, and renal/hepatic dysfunction.

Consider the following when adjusting the calculated (estimated) equianalgesic dose:

0% reduction: moderate to severe pain, no side effects (sedation, respiratory depression, neurotoxicity) on current medication
25% reduction: mild to moderate pain, no side effects
50% reduction: mild or controlled pain, presence of side effects
Select the new drug on the basis of pharmacologic features, previous experience, availability, cost

Calculate the equianalgesic dose:
  - If switching to any opioid other than methadone or fentanyl:
    - Plan dose reduction of 25-50% (incomplete cross tolerance)
    - Select dose reduction closer to 50% if higher dose, elderly, medically frail
  - If switching to methadone:
    - Dose reduction is 50-75%, rarely converting to methadone at dose higher than 100 mg/day
  - If switching to transdermal fentanyl:
    - Use calculated equianalgesic dose included in product information (approx. OME/2)

On the basis of assessment of severity of pain severity and other medical/psychologic characteristics, increase or decrease the calculated dose by 15-30% to increase the likelihood that the initial dose will be effective, or conversely, unlikely to cause withdrawal or side-effects

If a supplemental (breakthrough) dose is used, calculate this dose at 10-20% of the total daily dose (OME) and administer at an appropriate interval

Exception: transmucosal fentanyl formulations should always be initiated at lower doses and titrated
<table>
<thead>
<tr>
<th>System Failure</th>
<th>Preferred</th>
<th>Consider</th>
<th>Avoid</th>
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</thead>
<tbody>
<tr>
<td>Hepatic</td>
<td>hydromorphone</td>
<td>oxycodone</td>
<td>fentanyl, hydrocodone, tramadol</td>
</tr>
<tr>
<td></td>
<td>methadone</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>morphine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renal</td>
<td>methadone</td>
<td>hydromorphone</td>
<td>morphine, codeine, tramadol</td>
</tr>
<tr>
<td></td>
<td>fentanyl</td>
<td>hydrocodone</td>
<td></td>
</tr>
<tr>
<td></td>
<td>oxycodone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatic + Renal</td>
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<td>fentanyl</td>
<td>morphine, codeine, tramadol</td>
</tr>
<tr>
<td></td>
<td>hydromorphone</td>
<td>oxycodone</td>
<td>hydrocodone</td>
</tr>
<tr>
<td>Opioid</td>
<td>Dose Sizes</td>
<td>Availability</td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>------------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>Morphine IR</td>
<td>15, 30</td>
<td>Oral solution 1mg/ml, 2mg/ml, 4mg/ml, 20mg/ml</td>
<td></td>
</tr>
<tr>
<td>Morphine SR</td>
<td>15, 30, 60, 100</td>
<td></td>
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<tr>
<td>Oxycodone IR</td>
<td>5, 15, 30</td>
<td>Oral solution 1mg/ml, 20mg/ml</td>
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</tr>
<tr>
<td>Oxycodone SR</td>
<td>10, 15, 20, 30, 40, 60, 80</td>
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<tr>
<td>Hydromorphone</td>
<td>2, 4, 8 po tablets</td>
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<tr>
<td>Fentanyl</td>
<td>lozenge – 2000, 400, 600, 800, 1200, 1600 mcg</td>
<td>buccal – 100, 200, 400, 600 800 mcg</td>
<td>transdermal – 12, 25, 50, 75 mcg/hr</td>
</tr>
<tr>
<td>Methadone</td>
<td>5, 10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Opioid Risk Variables

Family History
   Alcohol, Illegal Drugs, Prescription agents

Personal History
   Alcohol, Illegal Drugs, Prescription agents

Age (16-45)
   History preadolescent sexual abuse

Psychologic/Psychiatric Disease:  ADD, OCD, Bipolar, Schizophrenia, Depression

Aberrant Behaviors – more predictive:
   Selling prescription drugs
   Prescription forgery
   Stealing/"borrowing"
   Injecting oral drugs
   Multiple drugs
   Unsanctioned escalation
   Resisting change despite side effects
   Prescription losses

Aberrant Behaviors – less predictive:
   Aggressive complaining about need for increased doses
   Drug hoarding
   Specific drug request
   Use of drug to treat other symptoms
   Multiple escalations
<table>
<thead>
<tr>
<th>Drug:</th>
<th>Metabolite(s):</th>
<th>Duration (days):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Codeine</td>
<td>codeine, morphine, hydrocodone</td>
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<tr>
<td>Morphine</td>
<td>morphine, hydromorphone, codeine</td>
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<tr>
<td>Hydrocodone</td>
<td>hydrocodone, hydromorphone</td>
<td>2-4</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>hydromorphone</td>
<td>2-4</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>oxycodone, oxymorphone, hydrocodone</td>
<td>2-4</td>
</tr>
<tr>
<td>Oxymorphone</td>
<td>oxymorphone, oxycodone</td>
<td>2-4</td>
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<tr>
<td>Alprazolam</td>
<td>alprazolam, alpha-hydroxyalprazolam</td>
<td>up to 7</td>
</tr>
<tr>
<td>Clonazepam</td>
<td>7-aminoclonazepam</td>
<td>up to 7</td>
</tr>
<tr>
<td>Chlordiazepoxide</td>
<td>nordiazepam, oxazepam</td>
<td>up to 7</td>
</tr>
<tr>
<td>Diazepam</td>
<td>nordiazepam, temazepam, oxazepam</td>
<td>up to 7</td>
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<tr>
<td>Flurazepam</td>
<td>2-hydroxyethyl flurazepam</td>
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<tr>
<td>Lorazepam</td>
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</tr>
<tr>
<td>Oxazepam</td>
<td>oxazepam</td>
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</tr>
<tr>
<td>Temazepam</td>
<td>oxazepam</td>
<td>up to 7</td>
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<tr>
<td>Barbiturates</td>
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<tr>
<td>Cocaine</td>
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<tr>
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<td>PCP</td>
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<tr>
<td>Opioids</td>
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<tr>
<td>Propoxyphene</td>
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</tr>
<tr>
<td>Tramadol</td>
<td></td>
<td>2-4</td>
</tr>
</tbody>
</table>
Convert PO Methadone to IV Methadone:  
Total Methadone Dose/2
Infused over 24 hrs or divided q6-8 hr

Convert 24 hour Oral Morphine Equivalent (OME) to equianalgesic Morphine dose:
OME  | Ratio OME to 24 hr PO Methadone dose
<60  | “opioid naïve” – Methadone 2.5 mg bid or tid
60-200 | 10:1 (less than 65 years old)
>200 | 20:1 (or if greater than 65 years old)

(consider Fixed dose Methadone of 30 mg when OME > 300)

Adjust (decrease) calculated dose of Methadone up to 50%:
Incomplete cross tolerance
Varied metabolism
Imperfection of equianalgesic tables

Dose should not be increased before 5-7 days and not increased by more than 5-10 mg/day once a total daily dose of 30-40 mg has been reached

ECG evaluation for QTc prolongation based on clinical judgment

Methadone Interactions
- CYP450 inhibition > increase effect
  - Macrolides – clarithromycin, erythromycin
diltiazem, verapamil
  - ketoconazole
itraconazole
cyclosporine
grapefruit juice

- CYP450 induction > decrease effect
  - phenobarbital
phenytoin
carbamazepine
ritonavir

Estimate of Methadone to Morphine Conversion  (JPM 2008;11:1103)
1 mg Methadone PO  =  4.7 mg Morphine PO
1 mg Methadone IV  =  13.5 mg Morphine PO
This table incorporates:
  - Incomplete cross tolerance
  - Variations in metabolism
  - Imperfections in equianalgesic tables

> Do not decrease after conversion

<table>
<thead>
<tr>
<th>OME mg/24 hrs</th>
<th>Morphine to Methadone Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 100</td>
<td>3:1</td>
</tr>
<tr>
<td>101-300</td>
<td>5:1</td>
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<tr>
<td>301-600</td>
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<td>601-800</td>
<td>12:1</td>
</tr>
<tr>
<td>801-1000</td>
<td>15:1</td>
</tr>
<tr>
<td>Greater than 1000</td>
<td>20:1</td>
</tr>
</tbody>
</table>

Oral methadone to IV methadone = 2:1
PCN Fentanyl (F) Notes

For bolus dosing:  
100 mcg (0.1 mg) F = 10 mg Morphine IV = 30 mg Morphine PO

For continuous infusion:  
100 mcg (0.1 mg) F/hr = 6.6 mg Morphine/hr

F TTD to F IV:  decrease by 50%  
F IV to F TTD:  1:1  
OME to F TTD:  OME/2

F IV peak effect 6-10 min, duration 30-90 min

F TTD doses available:  mcg/hr  12, 25, 50, 75, 100

F oral lozenge (Actiq) = OTFC  
200 mcg OTFC = 12 mg Morphine PO  
                2-4 mg Morphine IV  
                7.5 mg oxycodone PO

OTFC mcg doses sizes available:  200, 400, 600, 800, 1200, 1600

F buccal tablets (Fentora):  2X strength of OTFC  
dose sizes available:  100, 200, 400, 600, 800
PCN Fentanyl Notes 2

50 mcg/hr Fentanyl TD = OME 100

IV Fentanyl
    Peak effect IV push = 6-10 minutes
    Duration of effect = 30-90 minutes

Conversion to IV Fentanyl:
    100 mcg IV Fentanyl = 10 mg IV Morphine
        (for bolus dosing or do not decrease for cross tolerance)
    100 mcg Fentanyl IV = 6.6 mg Morphine Sulfate
        (for continuous infusion)

TransDermal to IV Fentanyl - decrease by 50%

IV to TD - 1:1
### PCN Aberrant Behavior Risk

<table>
<thead>
<tr>
<th></th>
<th>Female Score</th>
<th>Male Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family History EtOH</td>
<td>1</td>
<td>3</td>
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<tr>
<td>Family History Illegal Drugs</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Family History Prescription Drugs</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Personal History EtOH</td>
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<tr>
<td>Personal History Illegal Drugs</td>
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<tr>
<td>Personal History Prescription Drugs</td>
<td>5</td>
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<tr>
<td>Age 16-45</td>
<td>1</td>
<td>1</td>
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<tr>
<td>History Preadolescent Sexual Abuse</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Psychological Disease</td>
<td></td>
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</tr>
<tr>
<td>ADD</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>OCD</td>
<td>2</td>
<td>2</td>
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<tr>
<td>Bipolar</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Depression</td>
<td>1</td>
<td>1</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Risk Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Risk 0-3</td>
</tr>
<tr>
<td>Moderate Risk 4-7</td>
</tr>
<tr>
<td>High Risk 8 or more</td>
</tr>
</tbody>
</table>

Psychological Variables Potentially Implicated in Opioid-Related Mortality

- Fear and desperation in the face of pain (catastrophizing)
- Impulsivity
- Chemical coping
- Lack of acceptance
- Personal disorder ("borderline")
  - A: odd, eccentric
  - B: emotional overreactivity, self destructiveness, repetitive acting out
  - C: anxious, avoidant
- Demoralization, existential distress
- Sensation seeking
- Escapism
Categories of Interventions for Cancer Pain

Pharmacological
- Opioid analgesics
- Non-opioid analgesics
- Adjuvant analgesics

Interventional
- Injection therapies
- Neural blockade
- Implant therapy

Rehabilitative
- Modalities
- Therapeutic exercise
- Occupational therapy
- Hydrotherapy

Psychological
- Psychoeducational interventions
- Cognitive-behavioral therapy
- Relaxation therapy
- Guided imagery
- Other stress management and psychotherapy

Neurostimulation
- Transcutaneous
- Transcranial
- Implanted

Integrative (complementary, alternative)
- Acupuncture
- Massage
- Physical movement
- Others
Psychoactive Meds

### SSRI:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Brand</th>
<th>mg dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citalopram</td>
<td>Celexa</td>
<td>20-80</td>
</tr>
<tr>
<td>Fluoxetine</td>
<td>Prozac</td>
<td>20-80</td>
</tr>
<tr>
<td>Paroxetine</td>
<td>Paxil</td>
<td>20-80</td>
</tr>
<tr>
<td>Sertraline</td>
<td>Zoloft</td>
<td>50-300</td>
</tr>
</tbody>
</table>

Fewest drug/drug interactions: citalopram, sertraline
Sedation, discontinuation syndromes: paroxetine

### SNRI:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Brand</th>
<th>mg dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Venlafaxine</td>
<td>Effexor</td>
<td>37.5-300</td>
</tr>
<tr>
<td>Duloxetine</td>
<td>Cymbalta</td>
<td>20-120</td>
</tr>
</tbody>
</table>

for neuropathic pain at least 60 mg qd

### Atypical:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Brand</th>
<th>mg dosage</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bupropion</td>
<td>Wellbutrin</td>
<td>100-450</td>
<td>seizure risk</td>
</tr>
<tr>
<td>Mirtazapine</td>
<td>Remeron</td>
<td>15-45</td>
<td>increased appetite, weight gain</td>
</tr>
</tbody>
</table>

### 2nd generation Anti-Psychotic Agents:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Brand</th>
<th>mg dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haloperidol</td>
<td>Haldol</td>
<td>2.5-15</td>
</tr>
<tr>
<td>Risperidone</td>
<td>Risperdal</td>
<td>1-6</td>
</tr>
<tr>
<td>Olanzapine</td>
<td>Zyprexa</td>
<td>2.5-30</td>
</tr>
<tr>
<td>Aripiprazole</td>
<td>Abilify</td>
<td>5-30</td>
</tr>
<tr>
<td>Quetiapine</td>
<td>Seroquel</td>
<td>25-800</td>
</tr>
<tr>
<td>Clozapine</td>
<td>Clozaril</td>
<td>250-450</td>
</tr>
</tbody>
</table>

### Benzodiazepines:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Brand</th>
<th>mg dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alprazolam</td>
<td>Xanax</td>
<td>0.25-3</td>
</tr>
<tr>
<td>Clonazepam</td>
<td>Klonopin</td>
<td>0.25-3</td>
</tr>
<tr>
<td>Diazepam</td>
<td>Valium</td>
<td>2.5-20</td>
</tr>
<tr>
<td>Lorazepam</td>
<td>Ativan</td>
<td>0.5-5</td>
</tr>
<tr>
<td>Flurazepam</td>
<td>Dalmane</td>
<td>15-30</td>
</tr>
<tr>
<td>Temazepam</td>
<td>Restoril</td>
<td>10-20</td>
</tr>
</tbody>
</table>

### GABAa – Sleep Agents:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Brand</th>
<th>mg dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zaleplon</td>
<td>Sonata</td>
<td>5-10</td>
</tr>
<tr>
<td>Zolpidem</td>
<td>Ambien</td>
<td>5-10</td>
</tr>
</tbody>
</table>

### Other:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Brand</th>
<th>mg dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buspirone</td>
<td>Buspar</td>
<td>10-45</td>
</tr>
<tr>
<td>Trazodone</td>
<td></td>
<td>25-100</td>
</tr>
<tr>
<td>Drug</td>
<td>Dosage</td>
<td>Side Effects/Interactions</td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Escitalopram</td>
<td>5-20 qd</td>
<td>fewer interactions</td>
</tr>
<tr>
<td>Citalopram</td>
<td>10-40 qd</td>
<td>fewer interactions</td>
</tr>
<tr>
<td>Fluoxetine</td>
<td>5/10-60 qd</td>
<td>longer half-life, taper when discontinuing</td>
</tr>
<tr>
<td>Paroxetine</td>
<td>10 qPM – 40</td>
<td>sedating, significant interactions</td>
</tr>
<tr>
<td>Sertraline</td>
<td>12.5/25-200</td>
<td></td>
</tr>
<tr>
<td>Venlafaxine</td>
<td>37.5 qAM or bid-150 bid</td>
<td>stimulating (not use with anxiety), taper</td>
</tr>
<tr>
<td>Duloxetine</td>
<td>10/20 q AM -60 bid</td>
<td>use with coexistent anxiety</td>
</tr>
<tr>
<td>Desipramine</td>
<td>10/25 qhs- 150/day</td>
<td>Nausea, dry mouth, constipation</td>
</tr>
<tr>
<td>Nortriptyline</td>
<td>10 qhs – 150</td>
<td>fewer anti-cholinergic side effects</td>
</tr>
<tr>
<td>Mirtazapine</td>
<td>7.5/15 qhs-60</td>
<td>sedation, weight gain</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NE, 5HT antagonist</td>
</tr>
<tr>
<td>Bupropion</td>
<td>75-100 qAM – 450/day</td>
<td>useful with fatigue, low energy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>not with seizures, bulimia, anorexia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>weak NE, 5HT, Dop antagonist</td>
</tr>
<tr>
<td>Methylphenidate</td>
<td>2.5/5 qAM or noon - 60/day</td>
<td>side effects: nervousness, agitation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Citalopram</td>
<td>reduces agitation, anxiety</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not as activating as fluoxetine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not as sedating as paroxetine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“neutral”</td>
<td></td>
</tr>
<tr>
<td>Mirtazapine</td>
<td>sedation, increased appetite, enhances effect of Coumadin</td>
<td></td>
</tr>
<tr>
<td></td>
<td>not effective for pain</td>
<td></td>
</tr>
<tr>
<td></td>
<td>consider with combination of nausea/anorexia/insomnia/depression</td>
<td></td>
</tr>
<tr>
<td>Fluoxetine</td>
<td>activating</td>
<td></td>
</tr>
<tr>
<td>Bupropion</td>
<td>activating</td>
<td></td>
</tr>
<tr>
<td>Duloxetine</td>
<td>better tolerated in elderly</td>
<td></td>
</tr>
<tr>
<td></td>
<td>consider with depression/anxiety/neuropathic pain in elderly</td>
<td></td>
</tr>
<tr>
<td>Tri-cyclic agents:</td>
<td>contraindicated with CHF, liver failure, BPH</td>
<td></td>
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</table>
PCN – Antidepressant Medication Considerations (CoMorbid Neuro/Med and Psych Symptoms)

<table>
<thead>
<tr>
<th>Symptom(s)</th>
<th>Consider</th>
<th>Avoid</th>
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</thead>
<tbody>
<tr>
<td>Depression+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>SNRI</td>
<td>TCA, Bupropion</td>
</tr>
<tr>
<td>OCD</td>
<td>Fluoxetine</td>
<td>TCA</td>
</tr>
<tr>
<td>Psychosis</td>
<td>SSRI, SNRI + Anti-psych</td>
<td>TCA, Bupropion</td>
</tr>
<tr>
<td>Somatization</td>
<td>Duloxetine</td>
<td>TCA</td>
</tr>
<tr>
<td>Abulia</td>
<td>Bupropion</td>
<td>TCA, Paroxetine</td>
</tr>
<tr>
<td>Delerium or Dementia</td>
<td>Citalopram</td>
<td>TCA, Bupropion</td>
</tr>
<tr>
<td>Fatigue</td>
<td>Bupropion, Fluoxetine</td>
<td>TCA, Paroxetine</td>
</tr>
<tr>
<td>Insomnia</td>
<td>Mirtazapine</td>
<td>TCA, Fluoxetine</td>
</tr>
<tr>
<td>Pain</td>
<td>Duloxetine, TCA</td>
<td>SSRI</td>
</tr>
<tr>
<td>Parkinsonism</td>
<td>Bupropion, Mirtazapine</td>
<td>Sertraline, Paroxetine</td>
</tr>
<tr>
<td>Seizures</td>
<td>SSRI, SNRI</td>
<td>Bupropion</td>
</tr>
<tr>
<td>Tremor</td>
<td>Mirtazapine</td>
<td>SSRI, SNRI</td>
</tr>
<tr>
<td>Stroke</td>
<td>Citalopram</td>
<td>TCA</td>
</tr>
<tr>
<td>Vertigo</td>
<td>Fluoxetine</td>
<td>TCA</td>
</tr>
<tr>
<td>Advanced Age</td>
<td>Citalopram, Bupropion</td>
<td>TCA</td>
</tr>
<tr>
<td>Constipation</td>
<td>Bupropion, SSRI, SNRI</td>
<td>TCA</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>Mirtazapine, TCA</td>
<td>SSRI, Bupropion</td>
</tr>
<tr>
<td>DM</td>
<td>Bupropion, SSRI, SNRI</td>
<td>TCA, Paroxetine</td>
</tr>
<tr>
<td>Glaucoma</td>
<td>Bupropion, SSRI, SNRI</td>
<td>TCA</td>
</tr>
<tr>
<td>Heart Disease</td>
<td>SSRI</td>
<td>TCA, Mirtazapine</td>
</tr>
<tr>
<td>Hypotension</td>
<td>Bupropion, SNRI</td>
<td>TCA</td>
</tr>
<tr>
<td>Renal Failure</td>
<td>Fluoxetine</td>
<td>Bupropion</td>
</tr>
<tr>
<td>Hepatic Failure</td>
<td>Bupropion</td>
<td>Duloxetine, Citalopram</td>
</tr>
<tr>
<td>Nausea, GERD</td>
<td>Bupropion</td>
<td>Paroxetine, Sertraline</td>
</tr>
<tr>
<td>Overweight</td>
<td>Bupropion</td>
<td>TCA, Mirtazapine</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>SSRI, SNRI</td>
<td>TCA</td>
</tr>
<tr>
<td>Sexual Dysfunction</td>
<td>Bupropion</td>
<td>Paroxetine, SSRI</td>
</tr>
<tr>
<td>Smoker</td>
<td>Bupropion</td>
<td>TCA</td>
</tr>
<tr>
<td>Urine Retention</td>
<td>Bupropion</td>
<td>TCA</td>
</tr>
</tbody>
</table>

(SSRI,SNRI,Bupropion,Mirtazapine)

- no agent superior for associated pain, anxiety, insomnia
- higher incidence of side effects:
  - Venlafaxine > nausea
  - Sertraline > diarrhea
  - Mirtazapine > weight gain
  - Bupropion > less sexual dysfunction
  - Mirtazapine > faster onset of action
<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage</th>
<th>Administration</th>
<th>Onset</th>
<th>Half-life</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alprazolam</td>
<td>0.25-2 tid/qid</td>
<td>peak 30 minutes, ++ rebound</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lorazepam</td>
<td>0.5-1.5 bid/qid</td>
<td>peak 5-20 min, ½ life 13-15 hrs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clonazepam</td>
<td>0.25-2 bid/tid</td>
<td>peak 20-60 min, ½ life 19-50 hrs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diazepam</td>
<td>2-10 bid/qid</td>
<td>peak 15-45 min, ½ life 20-50 hrs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>metabolites 50-100 hrs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buspirone</td>
<td>5-10 bid/tid</td>
<td>peak 1-1.5 hrs, ½ life 2-11 hrs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haloperidol</td>
<td>0.5-5 q2-12 hrs</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NSAID Notes

**NSAID Classes:**

- Propionic acids
  - Fenoprofen
  - Ibuprofen
  - Ketoprofen
  - Naproxen
- Acetic acids
  - Diclofenac
  - Indomethacin
  - Ketorolac
  - Sulindac
  - Tolmentin
- Endic acids
  - Meloxicam
  - Piroxicam
- Anthranilic acids
  - Mefenamic acid

**Risk for GI complications:**

- Prior ulcer, GI bleed
- Age > 60
- High dose
- Concurrent steroids
- Concurrent anticoagulation

- 1 or 2 variables: moderate risk, use cytoprotective agent concurrently
- More than 2 variables: “don’t use”

**Other contraindications:**

- Strong history CV disease
- Hypercoagulable state
- Renal disease/failure
- Low perfusion state
Sub-anesthetic (off-label) uses for pain management

MNDA channel blockade – involved in central (dorsal horn) sensitization

Consider for: neuropathic pain

opiod-induced hyperalgesia (opioid alternative)

Continuous IV infusion: 0.05-0.3 mg/kg/hr

PO Ketamine: liquid – dilute to 50 mg/ml

start 10-25 mg tid to qid, titrate in steps of 10-25 mg

usual effective dose 100-300 mg/day
Surgery Indications:

- Spinal instability
- Previous RT
- Worse despite RT
- Radioresistant tumor
- Unknown primary
- Paraplegia less than 48 hrs
- Single area of compression

Steroid dosing: dexamethasone

“high dose” – if neuro exam abnormal
96 mg bolus IV, 24 q 6 hr po x 3 days
10 day taper

“moderate dose” – all others
10 mg bolus IV, 4 qid
2 week taper
PCN: Nausea/Vomiting
Nervous System Pathways/Mechanisms/Receptors
Correlation of Mechanisms/Receptors with Medications

4 pathways:
Chemoreceptor Trigger Zone (CTZ)
Cortex
Peripheral
Gastrointestinal (GI)
Serosa
Viscera
Vestibular

Receptors:
Acetylcholine (Ach)/Muscarinic(m)
Dopamine-2 (D2)
Histamine (H1)
Neurokinin (NK)
5-hydroxytryptamine-2 (5-HT2)
5-hydroxytryptamine-3 (5-HT3)

CTZ, opioids > D2 > metoclopramide, prochlorperazine, chlorpromethazine, haloperidol, olanzapine

ChemoRx, RT, opioids, uremia, post-op > 5-HT3>
ondansetron, dexamethasone

Bowel obstruction > D2, Ach > metoclopramide, haloperidol/olanzapine, dexamethasone, hyoscyamine

Motion > H1 > scopolamine, diphenhydramine, promethazine

Sample Agents:
Metoclopramide D2 (GI), 5HT2
Prochlorperazine D2 (CTZ)
Chlorpromazine D2 (CTZ)
Promethazine D2, H1, Ach
Diphenhydramine H1
Scopolamine Ach
Hyoscyamine Ach

Ondansetron 5HT3
Mirtazapine 5HT3

Olanzapine D2, Ach, H1, 5HT3
Haloperidol D2
Propofol 5HT3
PCN NYHA Heart Failure Classification

Symptoms = fatigue, dyspnea, palpitations, angina

I: cardiac disease without resulting limitation of physical activity
   ordinary physical activity does not cause symptoms

II: cardiac disease resulting in slight limitation of physical activity
    comfortable at rest
    ordinary physical activity results in symptoms

III: cardiac disease with limitation of physical activity
    comfortable at rest
    less than ordinary physical activity causes symptoms

IV: cardiac disease resulting in inability to carry out any physical activity
    symptoms present even at rest
    if any physical activity is undertaken, discomfort is increased
PCN LVAD Issues to consider

Device Failure/infection
Artificial nutrition/hydration
Transfusions
Renal replacement therapy
Mechanical ventilation
Organ donation

Comorbidities
  Stroke
  Sepsis
  Renal failure

Catastrophic event

Peri-operative mortality/morbidity
Rehabilitation plans

Quality of life
Goals/expectations
Psychosocial assessment
Spiritual/religious preferences

Reference: Swetz, LVAD Preparedness Plan
Mayo Clinic Proceedings
2011;86(6):493
Agitation in critically ill patients may result from inadequately treated pain, anxiety, delirium, and/or ventilator dysynchrony.

Detection and treatment of pain, agitation, and delirium should be reassessed often in these patients.

Patients should be awake and able to purposely follow commands in order to participate in their care unless a clinical indication for deeper sedation exists.

**Assess and Treat Statements and Recommendations**

Pain assessment should be routinely performed in all ICU patients (1B).

Self report is preferred over the use of behavioral pain scales to assess pain in ICU patients who are able to communicate (B).

The BPS and CPOT are the most valid and reliable behavioral pain scales for use in ICU patients who cannot communicate (B).

Vital signs should not be used alone to assess pain, but they may be used adjunctively for pain assessments (2C).

Preemptively treat chest tube removal with either analgesics and/or non-pharmacologic therapy (1C).

Suggest preemptively treating other types of procedural pain with analgesic and/or non-pharmacologic therapy (2C).

Use opioids as first line therapy for treatment of non-neuropathic pain (1C).

Suggest using non-opioid analgesics in conjunction with opioids to reduce opioid requirements and opioid-related side effects (2C).

Use gabapentin or carbamazepine, in addition to intravenous opioids, for treatment of neuropathic pain (1A).

Use thoracic epidural for postoperative analgesia in abdominal aortic surgery patients (1B).

Suggest thoracic epidural analgesia be used for patients with traumatic rib fractures (2B).

Depth and quality of sedation should be routinely assessed in all ICU patients (1B).

The RASS and SAS are the most valid and reliable scales for assessing quality and depth of sedation in ICU patients (B).

Suggest using objective measures of brain function to adjunctively monitor sedation in patients receiving neuromuscular blocking agents (2B).

Use EEG monitoring either to monitor non-convulsive seizure activity in ICU patients at risk for seizures, or to titrate electro-suppressive medication to achieve burst suppression in ICU patients with elevated intracranial pressure (1A).

Target the lightest possible level of sedation and/or use daily sedative interruption (1B).

Use sedation protocols and checklists to facilitate ICU sedation management (1B).

Suggest using analgesia-first sedation for intubated and mechanically ventilated ICU patients (2B).

Suggest using non-benzodiazepines for sedation (either propofol or dexmedetomidine) rather than benzodiazepines (either midazolam or lorazepam) in mechanically ventilated adult ICU patients (2B).

Delirium assessment should be routinely performed in all ICU patients (1B).

The CAM-ICU and ICDSC delirium monitoring tools are the most valid and reliable scales to assess delirium in ICU patients (A).

Mobilize ICU patients early when feasible to reduce the incidence and duration of delirium, and to improve functional outcomes (1B).

Promote sleep in ICU patients by controlling light and noise, clustering patient care activities, and decreasing stimuli at night (1C).

Avoid using rivastigmine to reduce the duration of delirium in ICU patients (1B).

Suggest avoiding the use of antipsychotics in patients who are at risk for torsades de pointes (2B).

Suggest not using benzodiazepines in ICU patients with delirium unrelated to ETOH/benzodiazepine withdrawal (2B).
**PAIN**
1. ICU patients routinely experience pain at rest and with ICU care (B). Pain in cardiac surgery patients, especially women, is poorly treated (B). Procedural pain is common in ICU patients (B).
2. Perform routine pain assessment in all patients (1B). In motor intact patients unable to self-report, we suggest using behavioral pain scales rather than vital signs to assess pain (2C). The BPS and CPOT are the most valid and reliable behavioral pain scales (B). Vital signs should only be used as a cue for further pain assessment (2C).
3. For non-neuropathic pain, use intravenous opioids as first line analgesic therapy (1C); use non-opioid analgesics to reduce opioid side effects (1C); and use either gabapentin or carbamazepine in conjunction with intravenous opioids for neuropathic pain (1A).
4. Suggest preemptively treating procedural pain (2C), especially chest tube removal (1C).
5. Use thoracic epidural analgesia for abdominal aortic surgery (1B), and suggest also using for traumatic rib fractures (2B). No evidence guides the use of lumbar epidural analgesia for abdominal aneurysm surgery (0A), or thoracic epidural analgesia for either intrathoracic or nonvascular abdominal surgical procedures (0B). No evidence guides the use of regional vs. systemic analgesia in medical ICU patients.

**AGITATION**
1. Maintaining lighter levels of sedation in ICU patients is associated with improved clinical outcomes (B); light levels of sedation should be maintained in these patients (1B).
2. The RASS and SAS scales are most valid and reliable instruments for assessing adequacy and depth of sedation (B).
3. Use Brain Function monitors only as adjuncts to subjective sedation scales in unparalyzed patients (1B), but suggest using brain function monitors to primarily monitor depth of sedation in patients receiving neuromuscular blocking agents (2B).
4. Use EEG monitoring to monitor non-convulsive seizure activity in ICU patients at risk for seizures, and to titrate burst suppression therapy in ICU patients with elevated intracranial pressure (1A).
5. Use either use daily sedative interruption or titrate sedative medications to maintain light levels of sedation (1B). Suggest using Analgesia-first sedation (2B). Suggest using non-benzodiazepines rather than benzodiazepine infusions for sedation (2B). Use sedation protocols and daily checklists to integrate and to facilitate management of pain, sedation, and delirium in ICU patients (1B).

1. Delirium is associated with increased mortality (A), prolonged ICU and hospital LOS (A), and post-ICU cognitive impairment (B).
2. Delirium risk factors include: pre-existing dementia, HTN, history of alcoholism, and a high severity of illness at baseline (B); coma (B); and benzodiazepine use (B). Mechanically ventilated ICU patients at risk for delirium have a lower delirium prevalence when treated with dexmedetomidine rather than with benzodiazepines (B).
3. Routinely monitor ICU patients for delirium (1B). The CAM-ICU and ICDSC are the most valid and reliable instruments for this purpose (A).
4. Pursue early mobilization to reduce the incidence and duration of delirium (1B).
5. Suggest not using either haloperidol or atypical antipsychotics prophylactically to prevent delirium (2C).
6. Promote sleep in adult ICU patients by optimizing patients’ environments, using strategies to control light and noise, to cluster patient care activities, and to decrease stimuli at night in order to protect patients’ sleep cycles (1C).
7. Do not use rivastigmine to reduce the duration of delirium in ICU patients (1C).
8. Suggest withholding antipsychotics in patients with baseline QT prolongation, a history of Torsades de Pointes, or in those receiving concomitant medications known to prolong the QT interval (2C).
9. When sedation is required in delirious ICU patients, suggest using dexmedetomidine rather than benzodiazepine infusions for sedation in these patients, unless delirium is related to either alcohol or benzodiazepine withdrawal.
Withdrawal of Life-Sustaining Measures

Most patients who die in ICU and acute-care settings do so after a decision to limit life-sustaining treatments. Physicians have an important responsibility to improve the process by which life-sustaining treatments are withheld or withdrawn. Although little empiric evidence is available to guide clinicians in the practical aspects of withdrawing life-sustaining treatments, ICU physicians should thoroughly understand the goals of withdrawing life-sustaining treatments (to remove all treatments no longer desired or indicated while ensuring patient comfort during the process) and should develop expertise in withdrawing life-sustaining treatments in order to minimize patient symptoms and support the family.

Withdrawal of life-sustaining treatments is a clinical procedure; physicians must have the same preparation and expectation of its quality as for other procedures. The rationale for the decision to withdraw life support should be documented in the medical record. Several topics should be discussed with families, including explaining how interventions will be withdrawn, how the patient’s comfort will be ensured, the patient’s expected length of survival, and family or patient preferences about other aspects of end-of-life care. An explicit plan for performing the procedure and handling complications should be formulated. The patient should be in the appropriate setting with irrelevant monitoring removed; the process should be carefully documented, including reasons for increasing sedation or analgesia; and outcomes should be evaluated to improve the quality of future care.

Once a decision is made and a time is set to withdraw life-sustaining treatments, the course and timing of withdrawal should be determined by the potential for patient discomfort as treatment is stopped. Although time should be provided for family to say goodbye, the only rationale for tapering life-sustaining treatment is to allow time to meet the patient’s needs for symptom control. Vasopressors, antibiotics, nutrition, or most other critical care treatments can be discontinued immediately, without tapering. Mechanical ventilation is one of the few life-support treatments for which abrupt termination can lead to discomfort; consequently, physicians have a responsibility to develop an approach to terminal ventilator discontinuation that ensures patient comfort. A protocol that explicitly details an approach to withdrawal of life support in the ICU, including mechanical ventilation, has been associated with high ratings of clinician satisfaction and may help improve the quality of care, especially in settings where physicians are not familiar with withdrawal of life support or where there is significant practice variation. A sample protocol devised for withdrawal of mechanical ventilation is shown in Table 1. Physicians also should inform families that, while death is expected after withdrawal of support, it may not be certain and the timing can vary.

Any protocol for withholding life-sustaining treatments should include an explicit protocol for sedation and analgesia during this procedure. Such a protocol, carefully developed and implemented, has been associated with high levels of physician and nurse satisfaction, as well as with increased use of opiates and benzodiazepines for some patients without change in time from ventilator withdrawal to death. Furthermore, higher
doses of opiates and benzodiazepines in the context of withdrawing mechanical ventilation has been shown to be associated with no change or an actual increase in time from withdrawal of mechanical ventilation to death, suggesting that these drugs can be used to provide for patient comfort without hastening death.

Table 1

Sample Protocol for Terminal Withdrawal of Mechanical Ventilation Previously Developed and Evaluated

1. Initial ventilator setting: IMV rate __, PS level __, (choose IMV or PS, not both), Fio₂ __, PEEP __
2. Reduce apnea, heater, and other ventilator alarms to minimum setting
3. Reduce Fio₂ to room air and PEEP to zero over < 5 min and titrate sedation as indicated for discomfort
4. As indicated by level of comfort, wean IMV to 4 or PS to 5 over 5 to 20 min; titrate sedation for comfort
5. When patient is comfortable on IMV rate 4 or PS of 5, select one of the following:
   Extubate patient to air
   T-piece with air (not CPAP on ventilator)

- IMV = intermittent mandatory ventilation; PS = pressure support; Fio₂ = fraction of inspired oxygen; PEEP = positive end-expiratory pressure; CPAP = continuous positive airway pressure.
PCN Communication 1

5 Key Elements of Patient-Centered Communication (Gustin)

Assess Patient Perspective ------------------------------------------ Manage Uncertainty
I
I
I Shared Decision-Making
I
I
Exchange Information --------------------------------------------- Attend To Emotion

Mnemonics:

SPIKES
S: Setting up interview
P: assessing patient Perception/Perspective
I: obtaining patient Invitation
K: giving Knowledge and information
E: addressing patient Emotions
S: Strategies and Summary

VALUE
V: Value patient/family input
A: Acknowledge emotion
L: Listen
U: Understand patient as a person
E: Elicit concerns

NURSE
N: Name
U: Understand
R: Respect
S: Support
E: Explore

ASCEND
A: Anticipate – preplanning
S: Summarize patient/family understanding
C: Acknowledge Concerns
E: Explore and Explain
N: Next steps
D: Document
PCN Spiritual Assessment/Management

Spirituality (meaning, hope, relationships, forgiveness)

Existential (how and whether life has meaning and why we exist)

Palliative Care Practitioner Role in Spiritual Healing

Be: Human
    Real
    Honest

Be: Present
    Listen

Be: Sensitive to spiritual needs

Respect: Belief systems

Include: In intervention plan

Simple Questions:
    Do you have any spiritual or religious concerns at this point?
    Are there spiritual resources that could help you at this point

On-line resource: George Washington Institute for Spirituality and Health (GWish)
PCN Capacity Evaluation

Criterion: Understanding
Patient Ability: grasp fundamental meaning of information communicated
Assessment Approach: encourage paraphrasing of disclosed information regarding condition and treatment
Sample Questions: “please tell me in your own words...”:
  “the problem with your health now”
  “the recommended treatment”
  “the possible risks and benefits of the treatment”
  “any alternative treatments and their risks/benefits”
  “risks and benefits of no treatment”
Comment: information to be understood includes nature of condition, nature and purpose of proposed treatment, possible risks and benefits of that treatment, and alternative approaches – including no treatment

Criterion: Appreciation
Patient Ability: acknowledge medical condition and likely consequences of treatment options
Assessment Approach: ask for description of perspective on medical condition, proposed treatment, likely outcomes
Sample Questions: “what do you believe is wrong with your health now?”
  “do you believe that you need some kind of treatment?”
  “what is treatment likely to do for you?”
  “what makes you believe it will have that effect?”
  “what do you believe will happen if you are not treated?”
  “why do you think (this treatment) has been recommended?”
Comment: consider that patients who do not recognize their illnesses (“lack of insight”) cannot make valid decisions about treatment; delusions or pathologic levels of distortion or denial are the most common causes of impairment in this criterion

Criterion: Deliberation/Reasoning
Patient Ability: demonstrate rational process of manipulating the relevant information
Assessment Approach: ask for comparison of treatment options/consequences and reasons for choice
Sample Questions: “how did you decide to accept or reject the recommended treatment?”
  “what makes (chosen option) better than (alternative option) for you?”
Comment: focus on process of decision-making, not outcome; patients have right to make “unreasonable” choices

Criterion: Communication
Patient Ability: clearly indicate a treatment choice
Assessment Approach: ask patient to identify/indicate a treatment choice
Sample Questions: “have you decided to follow a recommendation for treatment?”
  “can you tell me what that decision is?”
  OR “what is making it hard for you to decide”
Comment: frequent reversals of choice because of psych/neuro conditions may indicate lack of capacity
Pathways to EOL

Non-Escalation of Life Prolonging Therapies
Mode of Death: Progression of Underlying Disease
Comments: Difficult to control or predict exactly when and how death will occur
Allow family to recognize dying as a consequence of disease progression and beyond their control
Blood transfusions and antibiotics may provide comfort and should be judged on the basis of their actual effects on comfort (e.g. fluid overload versus improved energy level)

Compassionate Extubation
Mode of Death: Hypoxia, hypercarbia, acidosis, hemodynamic collapse
Comments: Allows for a rapid death if lung disease is severe or if patient has no respiratory drive
Prepare for possible secretions, anxiety, dyspnea
Stop neuromuscular blockade prior to extubation
Consider pre-medication to help alleviate symptoms

Cessation of Hemodynamic Support (Inotropes, Vasopressors, ECMO)
Mode of Death: Hypotension progressing to acidosis, shock, coma
Comments: Hypotension can result in significant sedation
Death may be rapid if patient is on significant hemodynamic support or may be hours to days if on lesser degrees of hemodynamic support
Can precipitate symptoms of heart failure or ischemia

Discontinuation of Dialysis
Mode of Death: Acidosis, Electrolyte Disturbances, Uremia, Fluid Overload
Comments: Uremia can cause sedation
Symptoms of fluid overload be distressing-prepare family and treat symptoms appropriately
Typically a prolonged course (days to weeks)
However, death can ultimately be rapid (hyperkalemia with cardiac arrest)

Withholding of Artificial Nutrition or Fluid
Mode of Death: Dehydration and Underlying Condition (NOT Starvation)
Comments: Aids with comfort related to fluid status and digestive system shutting down
Hunger and thirst lessen after 1-2 days with an increase in ketones and release of endogenous
endorphins which can have an analgesic effect
Death tends to occur within days to weeks (reported range 2-37 days) and often during sleep
Requires good mouth care

Dramatic physical changes can occur: significant weight loss, skin changes, sunken eyes, concave abdomen, abnormal respiration (including prolonged apnea)
Emotionally charged topic: important to have a consensus among team to provide a united front
Provide emotional support to family around concern for “starving” or “killing” their child, legal ramifications of decisions, judgment of extended family and friends
Avoid use of terms “withdrawal of care” and “reduction of care”; instead use terms such as “focus on comfort and quality of life” or “preventing suffering”
Care itself is never withdrawn, goals for care have changed while care often intensifies in other ways
Difficult care choices are ideally made when there is consensus among patients, parents, providers
However, in some cases it can be important to emphasize that decisions are provider-directed to minimize parental feelings of burden and guilt
Limit invasive tests or monitoring that do not promote comfort
Some parents want to know how long their child will live
Guide parents by speaking in terms of minutes/hours, hours/days, days/weeks, weeks/months
Acknowledge that it is difficult to predict length of survival-Examples:

“It is hard for us to know and we find that when we make predictions we are frequently Wrong. Based on _____’s medical situation, my best estimate would be ______. It is important to know, however that children often surprise us and may live longer or shorter than we anticipate, so it is important that we are prepared for both situations”

“Based on how much support ______ is currently receiving, we expect he/she will die within ________. Some kids do surprise us, though, and it is possible that he/she could live for a longer time. Regardless of what happens, we are ready to keep ________ comfortable.”
Guidelines for Pediatric EOL Symptom Management

Dyspnea
Pharmacologic
Opioids are the primary treatment for dyspnea at EOL
Opioid dose generally 25% of the amount used for pain
Consider lorazepam as an adjunct
Non-Pharmacologic
Oxygen
Elevate head of bed
Bedside fan
Fluid restriction

Secretions
Pharmacologic
Glycopyrrolate
Non-Pharmacologic
Fluid restriction
Gentle suction
Reposition
Educate families that noisy breathing may occur when death is imminent
May be distressing to hear but the child likely does not experience discomfort

Agitation/Anxiety
Pharmacologic
Lorazepam
Consider midazolam infusion (if lorazepam required more than q 3 hours)
Note agitation caused by delirium may be worsened by benzodiazepine
Consider use of anti-psychotic
Non-Pharmacologic
Low lighting
Soothing music
Familiar people/objects
Decrease sensory stimuli
Provide developmentally appropriate supportive therapy

Nausea/Vomiting
Pharmacologic
1st line: ondansetron or granisetron
2nd line: lorazepam
3rd line: prochlorperazine, haloperidol, metoclopramide, dexamethasone
Non-Pharmacologic
Avoid irritating foods and smells
Consider etiology/source of nausea when selecting agent
Be aware of distinction between true reduction in nausea versus sedation

**Pain**

**Pharmacologic**
- Opioid with appropriate loading dose
- Reassess patient frequently
- Consider repeat doses q 20 min x 3 doses
- After 3 doses consider continuous infusion

Once pain is adequately controlled with intermittent dosing
- Consider switching to continuous infusion
  - Determine 24 hour opioid use (OME)
  - Consider starting with 50% OME, calculate hourly rate

For patients already on a continuous infusion with symptom escalation
- Adjust rate no more often than every 8 hours
- Add total prn boluses
- Divide by the number of hours over which those boluses were given

- Divide again by 2 (50% reduction)
- Add to current basal rate, adjust prn dosing based on new hourly Rate

**General Considerations:**
- No ceiling dose for opioids in EOL symptom management
- Dosing interval for intermittent dosing may need to be shortened to achieve comfort
- Take into account other possible sedating medications
- Consider long-acting opioids that may not yet have achieved steady state (e.g. methadone, fentanyl TD)
- Consider expected course/nature of pain, anticipated procedure etc.
- Consider adjunctive medications and non-pharmacologic interventions
- Consider opioid rotation if significant adverse effects

**Non-Pharmacologic**
- See measures for agitation/anxiety
- Consider other integrative therapies
  - Acupuncture, biofeedback, guided imagery, mindfulness,
  - Meditation, aromatherapy
Phases of Death

**Pre-Active**
- Withdrawal from active participation in social activities
- Increased and prolonged periods of sleep
- Hypersensitivity to stimulation (e.g. light, sound, touch)
- Decreased appetite and PO intake
- Increased restlessness, confusion, agitation

**Active**

**Circulation**
- Blood pressure goes down, heart rate faster, pulse weaker
- Cold extremities, profound mottling of skin, cyanosis

**Fluids and metabolism**
- Inability to tolerate enteral nutrition
- Decreased energy requirements
- Notable decrease in urine and stool output, bowel or bladder incontinence

**Respiratory**
- Changes in breathing pattern
  - Cheyne-Stokes breathing
  - Agonal breathing
  - Prolonged periods of apnea
- Inability to close mouth or constant breathing through mouth
- Difficulty managing secretions, gurgling/noisy breathing (“death rattle”)

**Neurologic**
- Unresponsive or responsive only to significant stimulation
- Limited purposeful movement
- Decreased muscle tone
- May experience a sudden unexplained surge of energy
- “Terminal Agitation” severe multifactorial distress
  - Rule out other confounding variable:
    - Urinary retention, Constipation, Medication toxicity
- Unable to speak despite appearing awake

**Senses**
- Hearing may remain intact until death
  - Be cognizant of what is said around patient
- Vision is blurred
Confusion Assessment Method for the ICU-7 Delirium Severity Scale

1. Acute onset or fluctuation of mental status:
   Is the patient different than his/her baseline mental status?
   Has the patient had any fluctuation in mental status in the last 24 hours as evidenced by fluctuation on a sedation/level of consciousness scale (such as RASS or GCS)?
   0 for absent
   1 for present

2. Inattention
   Say to the patient, “I am going to read you a series of 10 letters. Whenever you hear the letter “A”, indicate by squeezing my hand.”
   Read letters from the following letter list in a normal tone 3 seconds apart. “SAVEAHAART” (Errors are counted when patient fails to squeeze on the letter “A” or when the patient squeezes on any letter other than “A.”)
   0 for absent
   (correct 8 or more)
   1 for inattention
   (correct 4-7)
   2 for severe inattention
   (correct 0-3)

3. Altered Level of Consciousness
   Present if the actual Richmond Agitation-Sedation Scale Score is anything other than alert and calm (zero)
   0 for absent
   (RASS:0)
   1 for altered level
   (RASS:1, -1)
   2 for severe altered
   (RASS:>1, <-1)

4. Disorganized Thinking
   Yes/No questions:
   Will a stone float on water?
   Are there fish in the sea?
   Does one pound weigh more than two pounds?
   Can you use a hammer to pound a nail?
   Errors are counted when the patient incorrectly answers a question.
   0 for absent
   (correct 4 or more)
   1 for disorganized
   (correct 2-3)
   2 for severe
   (correct 0-1)

Command: Say to patient “Hold up this many fingers” (Hold two Fingers in front of patient). “Now do the same with the other hand” (Do not repeat number of fingers)

An error is counted if patient is unable to complete entire command
# Reference Notes for Palliative Care Consultation-Selected References

Compiled by RF Johnson MD

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Communication Seven Steps/Decision-Making Communication Tool


Pain Assessment

Comprehensive Pain Assessment


Cognitively Impaired


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GSDS  

Fall Risk  

Functional Activities Questionnaire  

Spinal Cord Injury  

Modified Medical Research Council (mMRC) Dyspnea Scale  
Function Assessment

**ADL/IADL**


**ECOG**


**FAST**


**Clock Drawing Test CDT**


**KPS**


**m-R (modified Rankin)**


**GCS**


**PPS**


**Edmonton Frail Scale**


**Malnutrition Categories**


**Cerebral Performance Categories (CPC Scale)**

Barthel Index

Prognosis Assessment
Non-Disease Specific

BIS

CARING criteria

Charlson Comorbidity Index (CCI)

MRIS

PaP

PIMOA

PPS

PALIAR
### Disease Specific

#### Chemotherapy Response and Survival Data


#### PPI


#### KPS Mortality Prediction


### Cancer presentations with a median survival of 6 months or less


- Breast
- Primary Brain
- Colorectal
- Esophageal/Gastric
- Hepatobiliary/Pancreatic
- Hepatocellular
- Head and Neck
- Thyroid
- Melanoma
- NSCLC/SCLC
- Female Genital
- Male Genital
- Bladder and Renal Cell
- Solid Tumor in General
- Unknown Primary
- Acute Leukemia
- Chronic Leukemia
- Lymphoma/Multiple Myeloma

### Non-Cancer presentations with a median survival of 6 months or less

Salpeter SR, Malter DS, Luo AY, Stuart B. Systematic review of noncancer presentations with a median survival of six months or less. AmJMed. 2012;125:512e1-512e16.

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