Objectives

• Know why is it important to prognosticate
• Consequences of not doing so
• Advantages of doing so?
• Explore typical error patterns
• Be able to use disease-specific data
• Understand the role of the IDT in prognostication
Why Bother?...

- Patient/family decision-making near end of life
- Further therapy
  - Emphasize cure/remission vs. comfort
  - Avoid painful/expensive therapy if unlikely to be beneficial
- Family visits
- Work, travel
- Care-giving, FMLA, avoid financial ruin

...Why Bother?

- Conclude business and financial affairs
- Repair or bring closure to relationships
- Appropriate use of resources
- Referrals to palliative care or hospice
### Prognosis Can Guide Clinical Decisions

#### Table 1. Sample Clinical Decisions Influenced by Life Expectancy

<table>
<thead>
<tr>
<th>Life Expectancy</th>
<th>Sample Clinical Decision</th>
<th>Guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;5 mo</td>
<td>Discontinuation of chemo*</td>
<td>None</td>
</tr>
<tr>
<td>&lt;8 mo</td>
<td>Refer to hospice</td>
<td>Medicare regulations</td>
</tr>
<tr>
<td>&lt;1–2 y</td>
<td>Nonoperative management of symptomatic abdominal aortic aneurysm† ‡</td>
<td>None</td>
</tr>
<tr>
<td>&lt;2–3 y</td>
<td>Blood pressure/lipid control in diabetes mellitus unlikely to prevent macrovascular complications</td>
<td>California Healthcare Foundation and AGS</td>
</tr>
<tr>
<td>&lt;2–3 y</td>
<td>Lowering blood pressure to &lt;140/90 mm Hg unlikely to improve cardiovascular outcomes*</td>
<td>None</td>
</tr>
<tr>
<td>&lt;5 y or &lt;7 y</td>
<td>Discontinuation of colon cancer screening† ‡</td>
<td>AGS‡ or USPSTF‡</td>
</tr>
<tr>
<td>&lt;5 y or “limited”</td>
<td>Discontinuation of breast cancer screening† ‡</td>
<td>AGS‡ or USPSTF‡</td>
</tr>
<tr>
<td>&lt;5 y</td>
<td>Biventricular or left ventricular assist device may be preferable to valve repair or valve replacement</td>
<td>California Healthcare Foundation and AGS</td>
</tr>
<tr>
<td>&lt;8 y</td>
<td>Limited benefit to lowering hemoglobin A1c, therapeutic target is &lt;6%</td>
<td>California Healthcare Foundation and AGS</td>
</tr>
<tr>
<td>&lt;8 y</td>
<td>Tight glycemic control in diabetes mellitus unlikely to prevent microvascular complications† ‡</td>
<td>California Healthcare Foundation and AGS</td>
</tr>
<tr>
<td>&lt;10 y</td>
<td>Discontinuation of prostate cancer screening† ‡</td>
<td>AGS‡ and AUA† ‡</td>
</tr>
<tr>
<td>&lt;15 y</td>
<td>Radiation therapy to palliate breast may not have mortality benefit if life expectancy &lt;15 y; for patients with T1, T2 ER+ breast cancer status after breast-conserving surgery and chemotherapy† ‡</td>
<td>None</td>
</tr>
</tbody>
</table>

*Prognosis is only one of many important factors to consider for these clinical decisions.

---

### Our worries

- Inflicting pain
- Being blamed
- Uncertainty
- Sense of failure
- Expressing emotions
- Own mortality
- Self-fulfilling prophecy
Patients’ Misunderstandings

• 1/3 of patients with metastatic disease believe it’s localized
• 1/3 patients receiving palliative CTX believe its curative

Patients’ Want...

• Information about prognosis with optimism
• 55% of patients referred for Palliative Care want information on a dire prognosis
• Tend to want physician to overestimate
• Older, less educated want less information
• May not want to know they are dying
...Patients’ Want

- Depressed patients want more information
- Anxious patients want less information
- Realism with compassion
- Lessening of uncertainty
- Family members present for the discussion but want to control which members

Hope

- Previously unacceptable options may become OK
- Self-ratings of QOL remain high, even in advanced disease
- Possible definitions of hope
  - A belief that cure is possible
  - Alternatives
    - Absence of suffering
    - Meaningful time spent with family
    - Repair of relationships
Consequences Of Failure To Prognosticate

- Death in institutional setting more likely
- Symptom management secondary to other interventions
- Loss of time with family
- Financial and emotional consequences
- Late referral (or none) to Hospice

Cancer Trajectory: Diagnosis to Death

Cancer ~15% of deaths

- Onset of incurable cancer
- Time
- High Function
- Low Function
- Possible hospice enrollment
- Often a few years, but decline usually < 2 months
- Death

Joanne Lynne  The Washington Home Center for Palliative Care Studies. 2003

### Terminally Ill Cancer Patients

- 468 patients in Hospice
- Actual median survival 24 days
- Accurate prognosis (within 33% AS) 20%
- Optimistic 63%
  - Overestimated survival by 5.3X
- Pessimistic 17%
- Clinical experience increased accuracy
- Long relation with patient decreased accuracy


---

**Palliative Prognostic Score (PaP)**

<table>
<thead>
<tr>
<th>Prognostic Factor</th>
<th>Result</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyspnea</td>
<td>Absent</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Present</td>
<td>1</td>
</tr>
<tr>
<td>Anorexia</td>
<td>Absent</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Present</td>
<td>1</td>
</tr>
<tr>
<td>KPS</td>
<td>≥30</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>10-20</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>&gt;12 weeks</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>11-12 weeks</td>
<td>2</td>
</tr>
<tr>
<td>CPS</td>
<td>9-10 weeks</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>7-8 weeks</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>5-6 weeks</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>3-4 weeks</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>1-2 weeks</td>
<td>8.5</td>
</tr>
</tbody>
</table>
### Palliative Prognostic Score (PaP)

<table>
<thead>
<tr>
<th>Prognostic Factor</th>
<th>Result</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total wbc count</td>
<td>4500-8500</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>8500-11,000</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>&gt;11,000</td>
<td>1.5</td>
</tr>
<tr>
<td>Lymphocyte %</td>
<td>20-40</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>12-19.9</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>&lt;12</td>
<td>2.5</td>
</tr>
</tbody>
</table>

### Palliative Prognostic Score (PaP)

<table>
<thead>
<tr>
<th>Score</th>
<th>Risk Group Probability of 30-day survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5.5</td>
<td>A: &gt;70%</td>
</tr>
<tr>
<td>5.6-11</td>
<td>B: 30-70%</td>
</tr>
<tr>
<td>&gt;11</td>
<td>C: &lt;30%</td>
</tr>
</tbody>
</table>

Inflammation-based score (mGPS) in advanced cancer

- Biomarkers for inflammation
- Score = 2
  - CRP > 1 mg%
  - albumin < 3.5 mg%
- Score = 1
  - CRP > 1 mg%
  - albumin > 3.5 mg%
- Score = 0
  - CRP < 1 mg%
  - any albumin
mGPS and Survival at 2 weeks

<table>
<thead>
<tr>
<th>Factor</th>
<th>Dead</th>
<th>Alive</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>mGPS &lt; 2</td>
<td>5</td>
<td>31</td>
<td>36</td>
</tr>
<tr>
<td>mGPS = 2</td>
<td>27</td>
<td>39</td>
<td>66</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>70</td>
<td>102</td>
</tr>
</tbody>
</table>


mGPS and Survival at 4 weeks

<table>
<thead>
<tr>
<th>Factor</th>
<th>Dead</th>
<th>Alive</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>mGPS &lt; 2</td>
<td>9</td>
<td>26</td>
<td>35</td>
</tr>
<tr>
<td>mGPS = 2</td>
<td>38</td>
<td>28</td>
<td>66</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>54</td>
<td>101</td>
</tr>
</tbody>
</table>
Survival of Medicare Hospice Patients

- 6451 Hospice patients
- Mean age 76 years
- 80% had cancer
- Median survival after enrollment = 36 days
- 16% died within 7 days
- 15% lived longer than 6 months

Prognosis With Advanced Solid Tumors...

- 177 French patients
- Patients hospitalized with metastatic or inoperable solid tumors
  - breast 13.6% lung 10.7%
  - pancreas 10.2% colon/rectum 9.6%
  - head/neck 7.9% prostate 7.3%
- Estimated survival of several days-6 months by their physicians.

... Prognosis With Advanced Solid Tumors...

- 5 factors had negative influence on survival
- 2 or more metastatic sites
- median survival 32 days vs. 119 days
- cerebral metastases
  - 23 days vs. 70 days
- LDH ≥600 IU
  - 28 days vs. 102 days
... Prognosis With Advanced Solid Tumors

- Low KPS
  - ≥70%  146 days
  - 40-60%  39 days
  - ≤30%  14 days
- Low serum albumin
  - >3.3 g/dL  126 days
  - 2.4-3.3 g/dL  55 days
  - <2.4 g/dL  30 days


Response And Survival Data For Chemotherapy

- For metastatic or locally advanced cancer
- First line CTX
  - expect poorer response for 2nd.... line CTX
- Response =>50% reduction in tumor volume
- Patients w/good enough performance to participate in clinical trials
- Median survival represents both responders and non-responders

### Response to CTX

<table>
<thead>
<tr>
<th>Cancer Site</th>
<th>Response Rate</th>
<th>Median Duration of Response</th>
<th>Median Survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>25-55%</td>
<td>6-12 mos</td>
<td>24-36 mos</td>
</tr>
<tr>
<td>Colon</td>
<td>25-35%</td>
<td>6-8 mos</td>
<td>12-18 mos</td>
</tr>
<tr>
<td>Esophagus</td>
<td>30-50%</td>
<td>4-6 mos</td>
<td>6-9 mos</td>
</tr>
<tr>
<td>Lung (NSC)</td>
<td>20-30%</td>
<td>4-6 mos</td>
<td>6-9 mos</td>
</tr>
<tr>
<td>Stomach</td>
<td>20-50%</td>
<td>4-6 mos</td>
<td>6-12 mos</td>
</tr>
<tr>
<td>Melanoma</td>
<td>15-25%</td>
<td>4-6 mos</td>
<td>6-9 mos</td>
</tr>
<tr>
<td>Pancreas</td>
<td>10-25%</td>
<td>3-5 mos</td>
<td>6-9 mos</td>
</tr>
<tr>
<td>Liver</td>
<td>5-15%</td>
<td>2-4 mos</td>
<td>6-9 mos</td>
</tr>
<tr>
<td>Biliary</td>
<td>15-25%</td>
<td>2-4 mos</td>
<td>6-9 mos</td>
</tr>
</tbody>
</table>

### Cancer Syndromes With Short Median Survival Times
- Hypercalcemia: 8 weeks (except newly diagnosed breast cancer or myeloma)
- Pericardial effusion: 8 weeks
- Meningitis: 8-12 weeks
- Ascites: <6 months
- Multiple brain metastases
- No Tx: 1-2 months
- Steroids: 2-3 months
- Whole brain XRT: 3-6 months

Malignant Pleural Effusion

- Prognosis especially poor if due to:
  - GI
  - Lung
  - Ovary

- Survival:
  - Average: 3-6 months
  - Median: 4 months
  - 3 month mortality: 65%
  - 6 month mortality: 80%


Organ System Failure Trajectory

- ~20% of deaths

Joanne Lynn. The Washington Home Center for Palliative Care Studies. 2003
Physicians’ Survival Predictions

- Median predicted chance of surviving 2 months
- 1 week prior to death 51%
- 1 day prior to death 17%
- CHF 62%
- Lung cancer 17%
- Coma 11%


Prognostic Accuracy By A Hospital-based Palliative Care Service...

- 429 patients seen by OHSU PCS
- 46% had cancer
- 50/50 male/female
- Patients assigned to 1 of 4 survival categories

... Prognostic Accuracy By A Hospital-based Palliative Care Service...

<table>
<thead>
<tr>
<th>Category</th>
<th>Survival Status</th>
<th>Description of Patient Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>( \leq 3 ) days</td>
<td>Likely to die in hospital; meet the criteria of local inpatient hospice houses for dying patients but not other inpatient criteria</td>
</tr>
<tr>
<td>2</td>
<td>4 days to 1 month</td>
<td>Likely to die fairly soon but could discharge from the hospital with adequate caregiving support</td>
</tr>
<tr>
<td>3</td>
<td>&gt;1 month to 6 months</td>
<td>Likely to die but families should plan for longer periods of caregiving after hospital discharge</td>
</tr>
<tr>
<td>4</td>
<td>&gt;6 months</td>
<td>Likely to live more than 6 months and may require longer term caregiving and not yet eligible for hospice</td>
</tr>
</tbody>
</table>

... Prognostic Accuracy By A Hospital-based Palliative Care Service

- 58% assigned to correct survival category
- 27% too optimistic
- 16% too pessimistic
- Neither cancer diagnosis nor length of hospital stay before consultation were associated with accuracy
- If team was consulted to address prognosis and goals of care they were less likely to be accurate
ESRD-Survival On Dialysis

- 1 year: 75%
- 5 years: 40%
- Independent predictors:
  - Albumin <3.5 g/dl
  - Functional status
  - Age
- 20% elect to D/C dialysis


Age-adjusted mortality on dialysis (2009 data)

- 40-49: 9.8%
- 50-59: 14.1%
- 60-64: 17.8%
- 65-69: 21.9%
- 70-79: 28.6%
- 80-84: 37.7%
- 85+: 48.3%

Modified Charlson Comorbidity Index for ESRD…

• 1 point each for
  • CAD, CHF, PVD, cerebrovascular disease, dementia, COPD, connective tissue disease, PUD, mild liver disease, DM
• 1 point for every decade over 40
• (e.g. 3 points at age 65)


... Modified Charlson Comorbidity Index...

• 2 points each for
  • hemiplegia
  • moderate to severe renal disease (including dialysis)
• DM w/end-organ damage
• cancer
• 3 points for moderate-severe liver disease
• 6 points for metastatic solid tumor or AIDS
Modified Charlson Comorbidity Index

<table>
<thead>
<tr>
<th>Modified CCI Score</th>
<th>&lt;4</th>
<th>4-5</th>
<th>6-7</th>
<th>&gt;7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Mortality Rate</td>
<td>0.03</td>
<td>0.13</td>
<td>0.27</td>
<td>0.49</td>
</tr>
</tbody>
</table>

End Stage Liver Disease

- MELD (Model for End Stage Liver Disease)
- 3 factors
  - Total bilirubin
  - INR
  - Cr
- Online: www.unos.org/resources/meld/PeldCalculator.asp
- iPhone: MedCalc
Survival in ESLD

<table>
<thead>
<tr>
<th>MELD Score</th>
<th>Predicted 6 month survival</th>
<th>Predicted 12 month survival</th>
<th>Predicted 24 month survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9</td>
<td>98%</td>
<td>93%</td>
<td>90%</td>
</tr>
<tr>
<td>10-19</td>
<td>92%</td>
<td>86%</td>
<td>80%</td>
</tr>
<tr>
<td>20-29</td>
<td>78%</td>
<td>71%</td>
<td>66%</td>
</tr>
<tr>
<td>30-39</td>
<td>40%</td>
<td>37%</td>
<td>33%</td>
</tr>
</tbody>
</table>

Predictive value loses accuracy after 1 year so repeat yearly


Other Prognostic Factors In ESLD...

- Adverse Factors
- Hyponatremia (<135)
- Spontaneous bacterial peritonitis
  - 30% 1-year survival
- Hepatoma
- Hepatic encephalopathy
- Continued EtOH use in alcoholic liver disease
...Other Prognostic Factors In ESLD

- Refractory ascites
- 50% 6-month survival
- Tobacco use (continuing)
- Age
- Male gender
- No effect on survival
- Variceal bleeding


Medical guidelines for determining prognosis in selected non-cancer diseases: National Hospice and Palliative Care Organization; 1996.

Said. Model for end-stage liver disease score predicts mortality across a broad spectrum of liver disease. J Hepatol. 2004;40:897-903

Hepato-Renal Syndrome

- Type I: Acute with ARF over days
- Median survival <2 weeks
- 100% mortality in 8-10 weeks
- Type II: ARF occurring over weeks-months
- Median survival 6 months

COPD-BODE Index

• B: BMI
• O: Airflow obstruction (FEV1 as % of predicted)
• D: Dyspnea (mMRC dyspnea scale)
  • 0  SOB only with strenuous exercise
  • 1  SOB hurrying on level or walking up slight hill
  • 2  Walk slower than others my age or have to stop when walking on level ground
  • 3  Have to stop at about 100 yds or after a few minutes on level ground
  • 4  Too breathless to leave house or SOB when dressing
• E: Exercise capacity (6-minute walk test)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Points on BODE Index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td>FEV1 (% of predicted)</td>
<td>≥65</td>
</tr>
<tr>
<td>Distance walked in 6 min (m)</td>
<td>≥350</td>
</tr>
<tr>
<td>mMRC dyspnea scale</td>
<td>0-1</td>
</tr>
<tr>
<td>BMI</td>
<td>&gt;21</td>
</tr>
</tbody>
</table>
Prognosis In Heart Failure

- 1991: 6847 patients admitted to a Scottish hospital for first episode of HF
- 5-year survival 25% for men or women
- Compared to men admitted with cancer of lung, colon, prostate, or bladder or to women with cancer of lung, breast, ovary, or colon

Heart Failure With Preserved LV Function

- HF with LV dysfunction (EF <50%) compared to HFPEF (diastolic dysfunction)
- 662 patients (France)
  - 95% NYHA class III or IV
  - HFPEF group significantly
    - Older
    - More likely female
    - More likely hypertensive
    - Etiology of HF less likely to be ischemic heart disease
    - Co-morbidities same except less likely to have PAD

...Heart Failure With Preserved LV Function

- 5-year survival rates not significantly different
  - HFPEF 43%
  - HF with decreased LV function 46%
- Co-morbidities were independent predictors of mortality in HFPEF
  - Age, CVA, COPD, cancer, DM, CRI, hyponatremia

Survival After Cardiac Arrest

- Pre-hospital
- 2-33%
- Inpatient
- 0-29%
- Comatose after recovery
- 80%
- Meaningful neurological recovery
- 10-30% of survivors


Seattle Heart Failure Model

Survival After Cardiac Arrest

http://depts.washington.edu/shfm/app.php
### Variables Associated With Failure To Survive To Discharge S/P CPR

<table>
<thead>
<tr>
<th>Variable</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPR in ICU</td>
<td>0.51</td>
</tr>
<tr>
<td>CAD</td>
<td>0.55</td>
</tr>
<tr>
<td>Acute MI</td>
<td>0.83</td>
</tr>
<tr>
<td>Cancer</td>
<td>1.9</td>
</tr>
<tr>
<td>Cr &gt; 1.5</td>
<td>2.2</td>
</tr>
<tr>
<td>Cr &gt; 2.5</td>
<td>3.1</td>
</tr>
<tr>
<td>Dementia</td>
<td>3.1</td>
</tr>
<tr>
<td>Cancer (metastatic)</td>
<td>3.9</td>
</tr>
<tr>
<td>Sepsis day prior to CPR</td>
<td>31</td>
</tr>
</tbody>
</table>


- “It’s OK if Dad dies from (cancer) but I wouldn’t want him to die just because his heart stopped”
- “People die (experience cardiac arrest) for a reason”
- The terminal event is (almost) always cardiac arrest, irrespective of underlying diagnosis
- If we can’t fix the underlying problem, CPR is ineffective
Traumatic Brain Injury

• http://www.crash2.lshtm.ac.uk/Risk%20calculator/index.html

• Risk of 14-day mortality
• Risk of poor outcome at 6 months
  • high vs low-moderate income nation
  • age
  • Glasgow coma score
  • Pupillary reaction to light
  • Major extra-cranial head injury
  • CT scan findings


Interventions After CVA

• PEG
  • 6 month mortality 50%
  • 3 year mortality 80%
  • 78% of 6 month survivors had severe disability

• Tracheostomy
  • 1 year survivors: 56% severely disabled

Holloway et. al. Prognosis and decision making in severe stroke. JAMA. 2005;294(6);725-33
High
Function
Low
Death
Onset could be deficits in ADL, speech, ambulation

~50% Of Deaths

Quite variable - up to 6-8 years

Mortality Risk For NH Residents With Advanced Dementia

- 222,000 NH patients with advanced dementia
- 6 & 12 month survival after MDS obtained
- NHPCO dementia criteria simulated with MDS data
- 53% 6-month mortality
### Characteristic Risk Score

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Risk Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recent NH admit</td>
<td>3.3</td>
</tr>
<tr>
<td>Age (1 point for each 5 years &gt; 65)</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>3.3</td>
</tr>
<tr>
<td>SOB</td>
<td>2.7</td>
</tr>
<tr>
<td>SOB ≥2</td>
<td>2.2</td>
</tr>
<tr>
<td>ADL score ≥28</td>
<td>2.1</td>
</tr>
<tr>
<td>In bed most of day</td>
<td>2.1</td>
</tr>
<tr>
<td>Insufficient PO intake</td>
<td>2.0</td>
</tr>
<tr>
<td>Bowel incontinence</td>
<td>1.9</td>
</tr>
<tr>
<td>BMI &lt;18.5</td>
<td>1.8</td>
</tr>
<tr>
<td>Wt loss &gt; 5% 30 days</td>
<td>1.6</td>
</tr>
<tr>
<td>CHF</td>
<td>1.5</td>
</tr>
</tbody>
</table>

### Probability Of Death

<table>
<thead>
<tr>
<th>Risk Score</th>
<th>6 months</th>
<th>12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤10</td>
<td>0.13</td>
<td>0.26</td>
</tr>
<tr>
<td>10.1-15</td>
<td>0.36</td>
<td>0.52</td>
</tr>
<tr>
<td>15.1-20</td>
<td>0.54</td>
<td>0.68</td>
</tr>
<tr>
<td>20.1-25</td>
<td>0.78</td>
<td>0.87</td>
</tr>
<tr>
<td>25.1-32</td>
<td>0.88</td>
<td>0.95</td>
</tr>
</tbody>
</table>
Causes Of Death In Dementia And Other Neurodegenerative Diseases

- Infections
  - Pneumonia
  - UTI
  - Cutaneous
- Malnutrition
  - Not starvation

Predictors Of Death In End-stage Dementia

- Hospitalization for pneumonia
  - 53% 6-month mortality
- New hip fracture
  - 55% 6-month mortality

## Victoria Hospice Society Palliative Performance Scale (PPSv2)

<table>
<thead>
<tr>
<th>PPS level %</th>
<th>Ambulation</th>
<th>Activity &amp; Evidence of Disease</th>
<th>Self-Care</th>
<th>Intake</th>
<th>LOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>Full</td>
<td>Normal activity &amp; work</td>
<td>Full</td>
<td>Normal</td>
<td>Full</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No evidence of disease</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>Full</td>
<td>Normal activity &amp; work</td>
<td>Full</td>
<td>Normal</td>
<td>Full</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some evidence of disease</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>Full</td>
<td>Normal activity w/ Effort</td>
<td>Full</td>
<td>Normal reduced</td>
<td>Full</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some evidence of disease</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>Reduced</td>
<td>Unable Normal Job/ Work</td>
<td>Full</td>
<td>Normal or reduced</td>
<td>Full</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Significant disease</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>Reduced</td>
<td>Unable hobby/ house work</td>
<td>Occasional assistance necessary</td>
<td>Normal or reduced</td>
<td>Full or confusion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Significant disease</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PPS level</th>
<th>Ambulation</th>
<th>Activity &amp; Evidence of Disease</th>
<th>Self-Care</th>
<th>Intake</th>
<th>LOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>50%</td>
<td>Mainly sit or lie</td>
<td>Unable to do any work Extensive disease</td>
<td>Occasional assistance required</td>
<td>Normal or reduced</td>
<td>Full or Drowsy</td>
</tr>
<tr>
<td>40</td>
<td>Mainly in Bed</td>
<td>Unable to do most activity Extensive disease</td>
<td>Mainly assistance</td>
<td>Normal or reduced</td>
<td>Full or Drowsy +/- Confusion</td>
</tr>
<tr>
<td>30</td>
<td>Totally Bed Bound</td>
<td>Unable to do any activity Extensive disease</td>
<td>Total Care</td>
<td>Normal or reduced</td>
<td>Full or Drowsy +/- Confusion</td>
</tr>
<tr>
<td>20</td>
<td>Totally Bed Bound</td>
<td>Unable to do any activity Extensive disease</td>
<td>Total Care</td>
<td>Minimal to sips</td>
<td>Full or Drowsy +/- Confusion</td>
</tr>
<tr>
<td>10</td>
<td>Totally Bed Bound</td>
<td>Unable to do any activity Extensive disease</td>
<td>Total Care</td>
<td>Mouth care only</td>
<td>Drowsy or coma +/- Confusion</td>
</tr>
<tr>
<td>0</td>
<td>Death</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PPSv2

- Read horizontally at each level for best fit
- Left side dominance
- Score in 10% increments only using best fit

PPS In Prognostication

<table>
<thead>
<tr>
<th>PPS</th>
<th>Mean</th>
<th>Median</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>60%</td>
<td>64 days</td>
<td>40</td>
<td>6-348</td>
</tr>
<tr>
<td>50</td>
<td>51</td>
<td>27</td>
<td>1-287</td>
</tr>
<tr>
<td>40</td>
<td>36</td>
<td>17</td>
<td>1-347</td>
</tr>
<tr>
<td>30</td>
<td>18</td>
<td>9</td>
<td>1-295</td>
</tr>
<tr>
<td>20</td>
<td>6</td>
<td>2</td>
<td>1-81</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>1</td>
<td>1-12</td>
</tr>
</tbody>
</table>

The IDT and Prognosis

- Patient and Family
- Nursing
- CHHA’s
- Social Work
- Chaplains
- Volunteers
- Physicians
  - Primary MD
  - Hospice MD
  - Specialists
- Other (e.g. RD, PT, OT, ST)
Certification/Recertification Tool

- Chronological view of decline
- Initiated upon admission
- Case Managers complete
- Facilitates discussion during IDT
- Improves awareness of indicators of prognosis

Categories

- PPS, FAST
- ADL’s
- Weight, MAC, BMI, visual changes
- Oral intake (type and amount)
- Presence of new or poor healing pressure ulcers
- History of falls
Categories, con’t

• Medication changes
• Mental status changes
• Fatigue and sleep
• ED visits or hospitalizations
• Other

Just When You Think You’ve Got It!

• Mr. K: 82 yr old male
• History: COPD, CAD, CHF, HTN, Dementia
• Week history of dyspnea worsening 2 days prior to hospitalization.
• After trial of BIPAP mechanical ventilation initiated.
• Multiple diagnostic studies completed throughout July 2011.
Mr. K

- Referred to Hospice for terminal extubation at home
- Goals of care: peaceful death at home
- Coordination of care:
  - Hospital MD’s
  - Hospital Staff
  - Hospice Respiratory Therapist
  - Critical Care Transport Team

Mr. K

- Care conference at hospital
- Upon arrival home
  - Initiation of Morphine and Midazolam SQ infusions
  - Extubation by RT
  - Initiation of BIPAP with transition to oxygen mask
Mr. K

• 2 Hours Later:
  • Transitioned to nasal cannula
  • Oxygen saturation 95%
  • Patient arousable, resting comfortably
  • Prognosis discussion by Hospice MD
• Next Day:
  • Midazolam discontinued
  • Morphine rate reduced
  • Taking bites of oatmeal

Mr. K

• Next 8 Weeks:
  • Oxygen use intermittent
  • Ambulating with cane
  • Eating small meals
  • Morphine Sulfate liquid as needed
  • Engaging interactions with Hospice CM
• October 10, 2011
  • Mr. K passed peacefully in his sleep
What tormented Ivan Illych most was the deception, the lie, which for some reason they all accepted, that he was not dying but was simply ill, and that he only need keep quiet and undergo a treatment and then something very good would result.”

The Death of Ivan Illych” Leo Tolstoy, 1886.

Conclusions

• Clinician has a duty to prognosticate
  • accurately
  • openly
• Can be evidence-based
• We tend to be optimistic
• Data exists to guide process
• HOWEVER: occasionally we are not right!
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