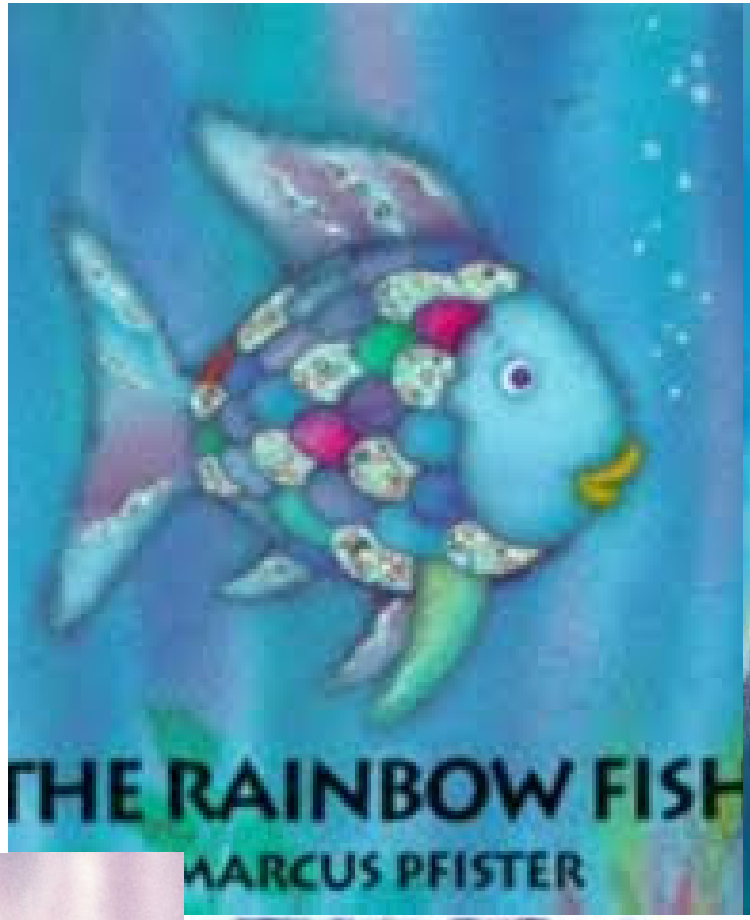
SCALES
SCALES
SCALES

WHAT SHOULD THE RAINBOW FISH DO WITH ALL OF THESE SCALES??

Karen L. Cross, MD, FAAHPM


THE RAINBOW FISH
MARCUS PFISTER

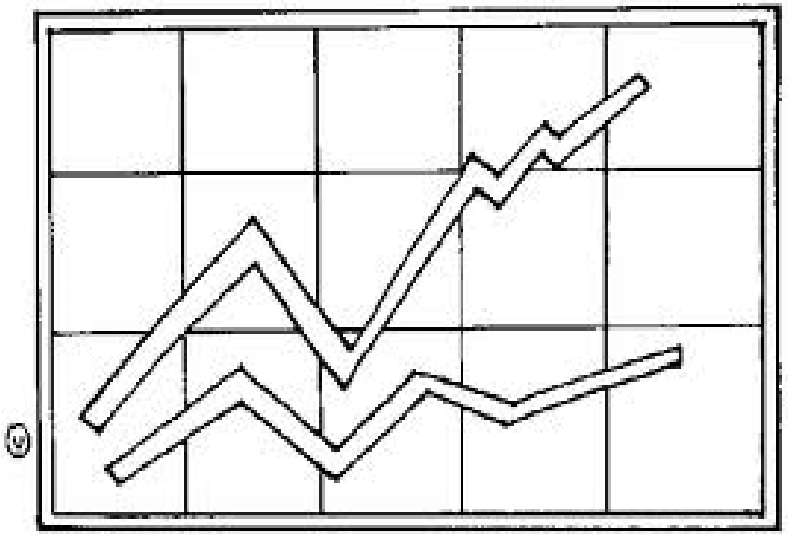
Performance Scales

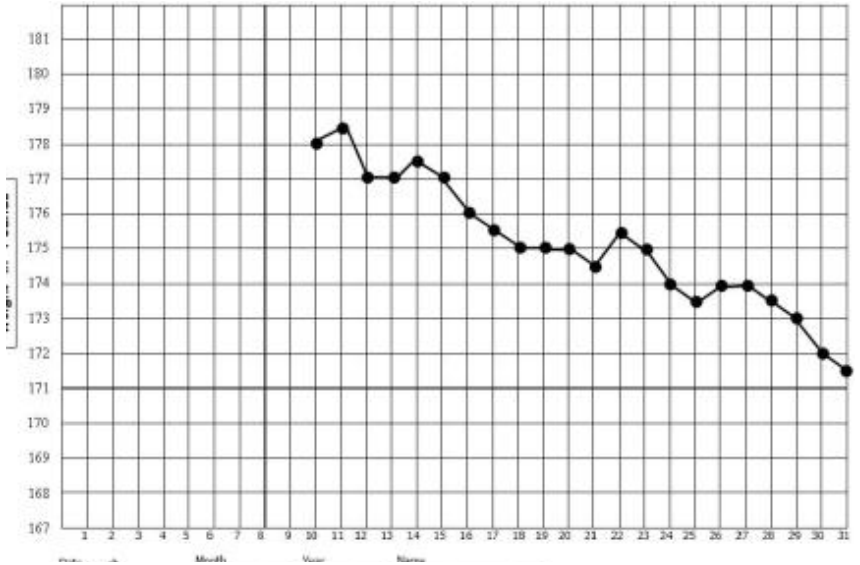
- KPS
- FAST
- ECOG
- PPS
- NYHA
- MRI
- ALSFRS


20%
10%
30%
40%
shutterstock
www.shutterstock.com · 32984812


ABCDEF
GHIJKL
MNOPQ
RSTUV
WXYZ


123456
7890




181
180
179
178
177
176
175
174
173
172
171
170
169
168
167
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

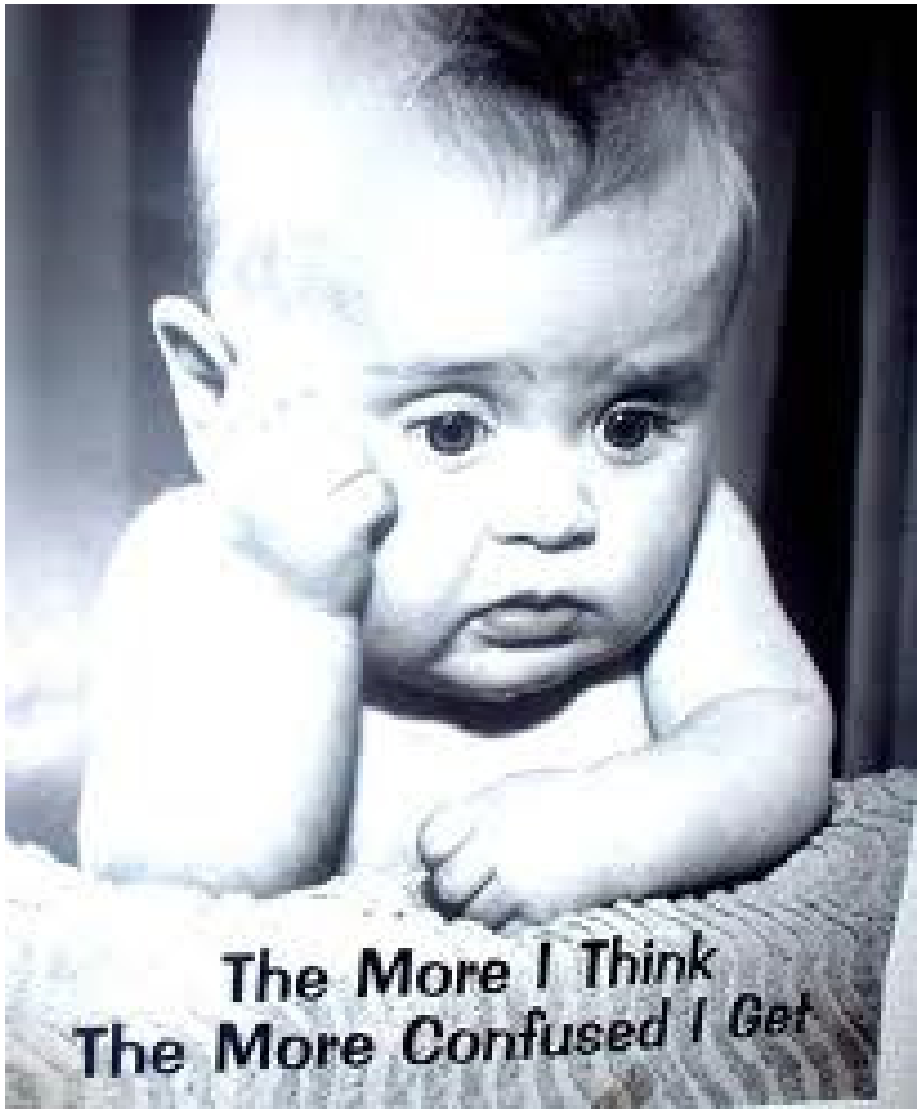
PPS = 30, 40, or 50

ECOG = 2, 3, or 4

NYHA = I, II, III, or IV

FAST = 5 . . . . 7f

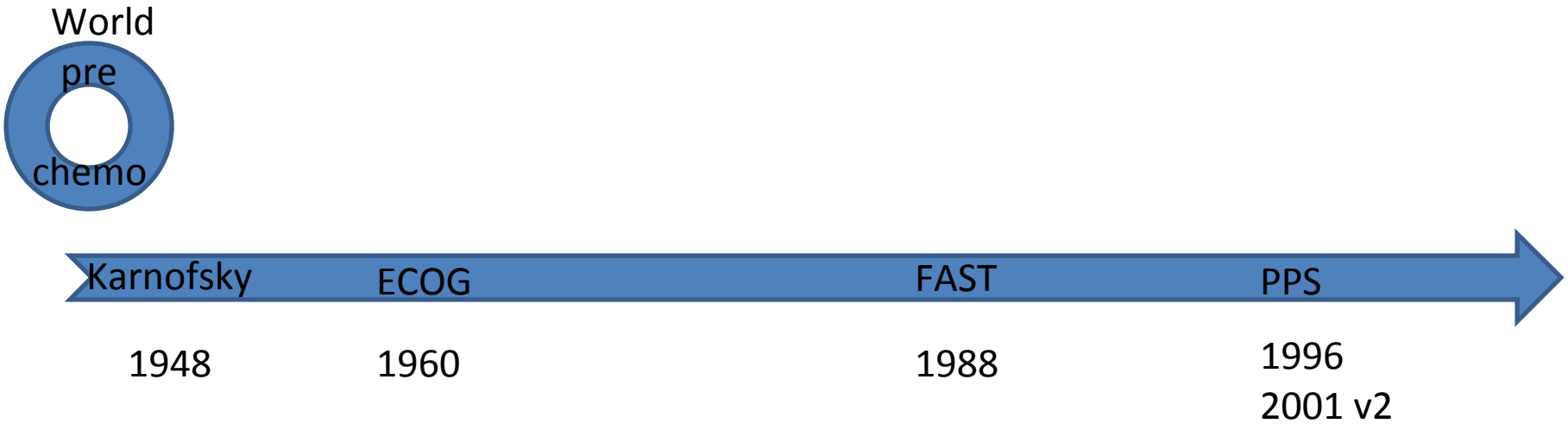
KPS 70 . . . 20


The More I Think
The More Confused I Get

Goals

- What is a performance scale ?

Performance Scale timeline



Karnosky Performance Status Scale (KPS)

Karnofsky Performance Scale		
General category	**%**	**Specific criteria**
• Able to carry on normal activity • No special care needed	100	Normal general status - No complaint - No evidence of disease
	90	Able to carry on normal activity - Minor sign of symptoms of disease.
	80	Normal activity with effort, some signs or symptoms of disease.
• Unable to work • Able to live at home and care for most personal needs • Various amount of assistance needed	70	Able to care for self, unable to carry on normal activity or do work
	60	Requires occasional assistance from others, frequent medical care
	50	Requires considerable assistance from others; frequent medical care.
• Unable to care for self • Requires institutional or hospital care or equivalent • Disease may be rapidly progressing	40	Disabled, requires special care and assistance
	30	Severely disabled, hospitalization indicated, death not imminent
	20	Very sick, hospitalization necessary, active supportive treatment necessary
• Terminal states	10	Moribund
	0	Dead

Eastern Cooperative Oncology Group (ECOG)

ECOG PERFORMANCE STATUS*	
Grade	**ECOG**
0	Fully active, able to carry on 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, e.g., light house work, office work
2	Ambulatory and capable of all selfcare but unable to carry out any work activities. Up and about more than 50% of waking hours
3	Capable of only limited selfcare, confined to bed or chair more than 50% of waking hours
4	Completely disabled. Cannot carry on any selfcare. Totally confined to bed or chair
5	Dead

* As published in Am. J. Clin. Oncol.:

Oken, M.M., Creech, R.H., Tormey, D.C., Horton, J., Davis, T.E., McFadden, E.T., Carbone, P.P.: Toxicity And Response Criteria Of The Eastern Cooperative Oncology Group. Am J Clin Oncol 5:649-655, 1982.

Dr. Akilu says …..

- The issue on performance status (measured by the ECOG or Karnofsky score) is complex

  “Most clinical trials for solid tumor do only select those with excellent to good PS. For lung cancer trials limited to PS 1-2 so impact on survival for those of PS 2 unclear. One rule of thumb I follow is if PS 3-4 tend not offer chemo. Exceptions are the highly aggressive small cells ca where PS does not really matter in the initiation of chemo as well as certain heme malignancies.”

ECOG interesting article

MD ECOG rating vs. Patient ECOG rating

109 patients
Stg III or IV NSCLC

Study eligibility = ≤ 1

MD rated patients at a better functional level than patients rated themselves

Palliative Performance Scale (PPS)

What Is the Palliative Performance Scale and How Should We Use It?

Karen L. Cross, MD FAAHPM

Historically clinicians have done a poor job predicting a patient's life expectancy. In 1972, researchers at St. Christopher's Hospice looked at physician and nursing staff's predictions of life expectancy and found that they were inaccurate and usually overly optimistic.[1] Despite advances in technology, clinicians are not doing much better today. An article in the *British Medical Journal* in 2000 showed that physicians overestimate prognosis in terminally ill patients.[2]

What are some of the tools that hospice clinicians can use to help with the difficult task of assessing a patient's life expectancy? Of all the factors associated with survival, patient's performance status has been the most extensively studied and has been shown consistently to correlate with survival.[3] The Karnofsky Performance Scale (KPS) was developed in the 1940s to assess the effect of chemotherapy on patient's functional performance. This scale has subsequently been used to predict patient's survival. The lower the Karnofsky score, the worse the survival for patients with serious illnesses (Figure 1). A similar tool, the Eastern Cooperative Oncology Group (ECOG) scale (Figure 2), is used to assess disease progression and determine appropriate treatment and prognosis.

Both the KPS and the ECOG scale were developed to assess the function and prognosis of patients with cancer. In 1996, the Victoria Hospice Society in British Columbia developed the Palliative Performance Scale (PPS) as a tool for measuring progressive decline over the course of an illness, determining prognosis, and facilitating communication about the palliative care patient's needs for supportive nursing care.[4] Based on the KPS, the PPS was more relevant to palliative care. A declining score usually indicated a worsening condition. In 2001, the authors announced that some programs were using the PPS incorrectly and there was ambiguity in the interpretation of some words in the original scale. A new version, PPSv2, was released in 2001 (Table 1).

The PPS is divided into 11 levels from 0% to 100%. Five parameters are utilized to assess a patient's function: ambulation, activity and evidence of disease, self-care, oral intake, and level of consciousness. Begin with the Ambulation column and identify the most appropriate level of ambulation for the patient. If the same description is listed several times, then use the column to the right to choose the "best fit." Move lateral to the next column—activity and evidence of disease—and read across or downwards until an appropriate description is identified. Move lateral to the self-care column and read across to the right, or downwards, until an appropriate description is identified. Repeat for oral intake and level of consciousness. Columns to the left of each parameter, "left-ward columns," are stronger determinates and generally take precedence over others. Some of the terms have similar meanings and the differences are more readily apparent reading horizontally across each row to find the "best fit" using all five columns.

Figure 1. Karnofsky Performance Scale

Percentage of Normal Function	Description
100	Normal, no complaints, no evidence of disease
90	Normal activity and minor signs/symptoms of disease
80	Normal activity with effort and some signs/symptoms of disease
70	Unable to do normal activity or active work but can care for self
60	Independent of ADLs but occasionally requires assistance
50	Requires considerable assistance and frequent medical care
40	Disabled and requires special care and assistance
30	Severely disabled, hospitalization indicated, death not imminent
20	Very sick, hospitalization necessary, active supportive treatment necessary
10	Moribund, fatal processes progressing rapidly
0	Dead

Figure 2. ECOG Performance Status

0	Fully active, able to carry on all pre-disease performance without restriction
1	Strenuous activity restricted but ambulatory and able to do light or sedentary work
2	Ambulatory, independent with ADLs but unable to work. Up >50% of waking hours
3	Capable of limited self-care, confined to bed/chair >50% of waking hours
4	Completely disabled. Unable to do ADLs. Totally confined to bed or chair
5	Dead

Ambulation

- The choice between full ambulation is determined by the patient's ability to do normal activity with or without effort described in the activity column.
- The choice between reduced ambulation is determined by the patient's inability to do hobbies or housework described in the activity column. For example, for a patient who is unable to do a normal job but is still able to do hobbies/housework, the score would be 70%. For a patient who is unable to do either a normal job or work or hobbies or housework, the score would be 60%.
- The choice between mainly sit/lie, mainly in bed, and totally bed bound depends on items in the self-care column. For a patient who has profound weakness or

Palliative Performance Scale (PPS)

PPS Level	Ambulation	Activity & Evidence of Disease	Self-care	Intake	Conscious level
100%	Full	Normal activity & work No evidence of disease	Full	Normal	Full
90%	Full	Normal activity & work Some evidence of disease	Full	Normal	Full
80%	Full	Normal activity *with* Effort Some evidence of disease	Full	Normal or reduced	Full
70%	Reduced	Unable Normal Job/Work Significant disease	Full	Normal or reduced	Full
60%	Reduced	Unable hobby/house work Significant disease	Occasional assistance necessary	Normal or reduced	Full or Confusion
50%	Mainly Sit/Lie	Unable to do any work Extensive disease	Considerable assistance required	Normal or reduced	Full or Confusion
40%	Mainly in Bed	Unable to do most activity Extensive disease	Mainly assistance	Normal or reduced	Full or Drowsy +/- Confusion
30%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Normal or reduced	Full or Drowsy +/- Confusion
20%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Minimal to sips	Full or Drowsy +/- Confusion
10%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Mouth care only	Drowsy or Coma +/- Confusion
0%	Death	-	-	-	-

Mrs. S

82 yr-old with dementia

- walker to get the mail
- no longer able to knit or sew
- doesn't recognize grandchildren
- difficulty completing sentences
- Daughter has to occasionally help with dressing

Palliative Performance Scale (PPS)

PPS Level	Ambulation	Activity & Evidence of Disease	Self-care	Intake	Conscious level
100%	Full	Normal activity & work No evidence of disease	Full	Normal	Full
90%	Full	Normal activity & work Some evidence of disease	Full	Normal	Full
80%	Full	Normal activity *with* Effort Some evidence of disease	Full	Normal or reduced	Full
70%	Reduced	Unable Normal Job/Work Significant disease	Full	Normal or reduced	Full
60%	Reduced	Unable hobby/house work Significant disease	Occasional assistance necessary	Normal or reduced	Full or Confusion
50%	Mainly Sit/Lie	Unable to do any work Extensive disease	Considerable assistance required	Normal or reduced	Full or Confusion
40%	Mainly in Bed	Unable to do most activity Extensive disease	Mainly assistance	Normal or reduced	Full or Drowsy +/- Confusion
30%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Normal or reduced	Full or Drowsy +/- Confusion
20%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Minimal to sips	Full or Drowsy +/- Confusion
10%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Mouth care only	Drowsy or Coma +/- Confusion
0%	Death	-	-	-	-

Mrs. S

- spends most of her day sitting in bed or a chair watching TV
- eating well
- incontinent of B & B
- daughter has to help to help her dress and shower daily

Palliative Performance Scale (PPS)

PPS Level	Ambulation	Activity & Evidence of Disease	Self-care	Intake	Conscious level
100%	Full	Normal activity & work No evidence of disease	Full	Normal	Full
90%	Full	Normal activity & work Some evidence of disease	Full	Normal	Full
80%	Full	Normal activity *with* Effort Some evidence of disease	Full	Normal or reduced	Full
70%	Reduced	Unable Normal Job/Work Significant disease	Full	Normal or reduced	Full
60%	Reduced	Unable hobby/house work Significant disease	Occasional assistance necessary	Normal or reduced	Full or Confusion
50%	Mainly Sit/Lie	Unable to do any work Extensive disease	Considerable assistance required	Normal or reduced	Full or Confusion
40%	Mainly in Bed	Unable to do most activity Extensive disease	Mainly assistance	Normal or reduced	Full or Drowsy +/- Confusion
30%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Normal or reduced	Full or Drowsy +/- Confusion
20%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Minimal to sips	Full or Drowsy +/- Confusion
10%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Mouth care only	Drowsy or Coma +/- Confusion
0%	Death	-	-	-	-

Mrs. S

- chokes when fed (bites of jello or pudding)
- has to be lifted to a bedside chair

Palliative Performance Scale (PPS)

PPS Level	Ambulation	Activity & Evidence of Disease	Self-care	Intake	Conscious level
100%	Full	Normal activity & work No evidence of disease	Full	Normal	Full
90%	Full	Normal activity & work Some evidence of disease	Full	Normal	Full
80%	Full	Normal activity *with* Effort Some evidence of disease	Full	Normal or reduced	Full
70%	Reduced	Unable Normal Job/Work Significant disease	Full	Normal or reduced	Full
60%	Reduced	Unable hobby/house work Significant disease	Occasional assistance necessary	Normal or reduced	Full or Confusion
50%	Mainly Sit/Lie	Unable to do any work Extensive disease	Considerable assistance required	Normal or reduced	Full or Confusion
40%	Mainly in Bed	Unable to do most activity Extensive disease	Mainly assistance	Normal or reduced	Full or Drowsy +/- Confusion
30%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Normal or reduced	Full or Drowsy +/- Confusion
20%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Minimal to sips	Full or Drowsy +/- Confusion
10%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Mouth care only	Drowsy or Coma +/- Confusion
0%	Death	-	-	-	-

Mrs. S

- Minimally responsive and unable to swallow
- Receiving continuous PEG feedings (2000cal/d)

Palliative Performance Scale (PPS)

PPS Level	Ambulation	Activity & Evidence of Disease	Self-care	Intake	Conscious level
100%	Full	Normal activity & work No evidence of disease	Full	Normal	Full
90%	Full	Normal activity & work Some evidence of disease	Full	Normal	Full
80%	Full	Normal activity *with* Effort Some evidence of disease	Full	Normal or reduced	Full
70%	Reduced	Unable Normal Job/Work Significant disease	Full	Normal or reduced	Full
60%	Reduced	Unable hobby/house work Significant disease	Occasional assistance necessary	Normal or reduced	Full or Confusion
50%	Mainly Sit/Lie	Unable to do any work Extensive disease	Considerable assistance required	Normal or reduced	Full or Confusion
40%	Mainly in Bed	Unable to do most activity Extensive disease	Mainly assistance	Normal or reduced	Full or Drowsy +/- Confusion
30%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Normal or reduced	Full or Drowsy +/- Confusion
20%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Minimal to sips	Full or Drowsy +/- Confusion
10%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Mouth care only	Drowsy or Coma +/- Confusion
0%	Death	-	-	-	-

Mr. R

65 yr-old with lung CA mets to spine with cord compression and paraplegia

- up all day in a chair watching TV and using his telescope
- eats well and feeds self
- full use of hands and arms

Palliative Performance Scale (PPS)

PPS Level	Ambulation	Activity & Evidence of Disease	Self-care	Intake	Conscious level
100%	Full	Normal activity & work No evidence of disease	Full	Normal	Full
90%	Full	Normal activity & work Some evidence of disease	Full	Normal	Full
80%	Full	Normal activity *with* Effort Some evidence of disease	Full	Normal or reduced	Full
70%	Reduced	Unable Normal Job/Work Significant disease	Full	Normal or reduced	Full
60%	Reduced	Unable hobby/house work Significant disease	Occasional assistance necessary	Normal or reduced	Full or Confusion
50%	Mainly Sit/Lie	Unable to do any work Extensive disease	Considerable assistance required	Normal or reduced	Full or Confusion
40%	Mainly in Bed	Unable to do most activity Extensive disease	Mainly assistance	Normal or reduced	Full or Drowsy +/- Confusion
30%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Normal or reduced	Full or Drowsy +/- Confusion
20%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Minimal to sips	Full or Drowsy +/- Confusion
10%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Mouth care only	Drowsy or Coma +/- Confusion
0%	Death	-	-	-	-

Is PPS the gold standard???

Ambulation and activity can be influenced by desire and support

Horizontal or down scoring – now can change levels to get a “best fit”

Functional Assessment Staging Tool (FAST)

Stage*	Assessment
1	No difficulties, either subjectively or objectively
2	Complains of forgetting location of objects; subjective word finding difficulties only
3	Decreased job functioning evident to coworkers; difficulty in traveling to new locations
4	Decreased ability to perform complex tasks (e.g., planning dinner for guests; handling finances; marketing)
5	Requires assistance in choosing proper clothing for the season or occasion.
6a	Difficulty putting clothing on properly without assistance
6b	Unable to bathe properly; may develop fear of bathing. Will usually require assistance adjusting bath water temperature
6c	Inability to handle mechanics of toileting (i.e., forgets to flush; doesn't wipe properly).
6d	Urinary incontinence, occasional or more frequent
6e	Fecal incontinence, occasional or more frequent
7a	Ability to speak limited to about half a dozen we to hold head up
7b	Intelligible vocabulary limited to a single word in an average day
7c	Nonambulatory (unable to walk without assistance)
7d	Unable to sit up independently
7e	Unable to smile
7f	Unable to hold head up

*score is highest **consecutive** level of disability

New York Heart Association Functional Class (NYHA)

	Symptoms
Class I	Cardiac disease but no limitation of physical activity. Ordinary activity does not cause undue fatigue, dyspnea, or anginal pain.
Class II	Mild limitation. Symptom free at rest. Ordinary activity may cause fatigue, dyspnea, or anginal pain that resolves with rest and results in only slight limitation of physical activity
Class III	Moderate limitation. Symptom free at rest. Ordinary activity is markedly limited by fatigue, dyspnea, or angina pain.
Class IV	Severe limitations. Symptoms cause inability to carry out any physical activity without discomfort. Fatigue, dyspnea, or angina may be present at rest. ANY physical activity increases discomfort.

last updated 3/4/94

Mortality Risk Index Score

Mortality Risk Index Score (Mitchell)

Points	Risk factor
1.9	Complete dependence with ADLs
1.9	Male gender
1.7	Cancer
1.6	Congestive heart failure
1.6	O2 therapy needed w/in 14 day
1.5	Shortness of breath
1.5	<25% of food eaten at most meals
1.5	Unstable medical condition
1.5	Bowel incontinence
1.5	Bedfast
1.4	Age > 83 y
1.4	Not awake most of the day

Risk estimate of death within 6 months

Score	Risk %
0	8.9
1-2	10.8
3-5	23.2
6-8	40.4
9-11	57.0
=12	70.0

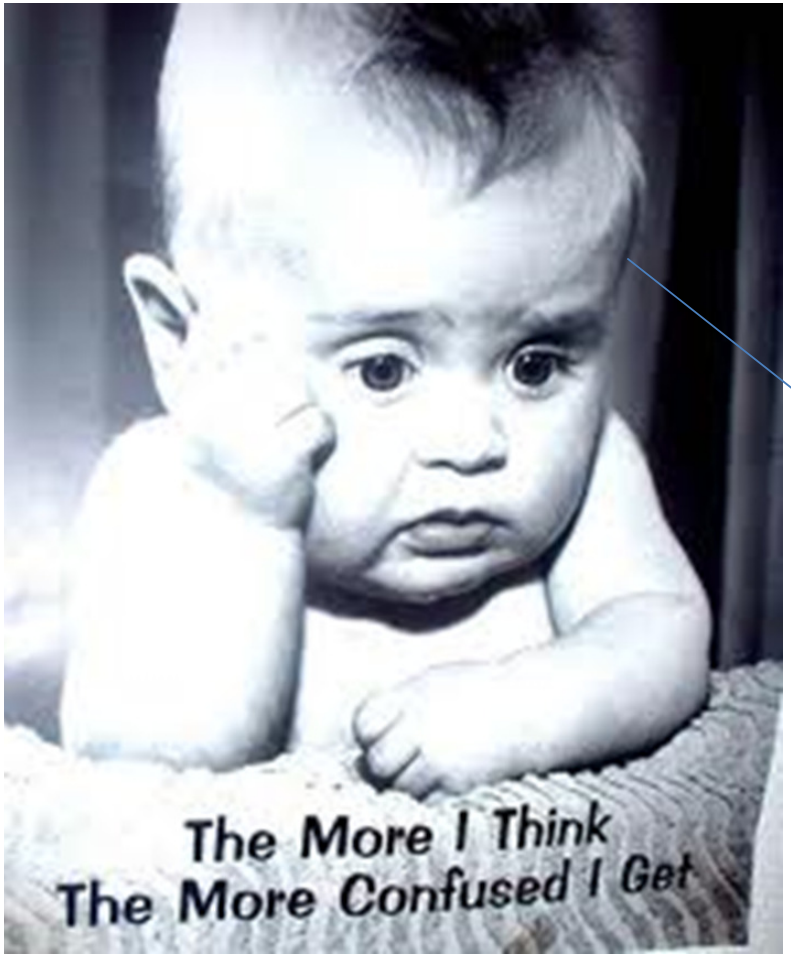
The MDS Mortality Risk Index – Revised (MMRI-R)

		Weight points
Admission to nursing home in the past three months	Yes ☐ No ☐*	_____
Lost weight unintentionally in the last three months	Yes ☐ No ☐	_____
Renal failure	Yes ☐ No ☐	_____
Chronic heart failure	Yes ☐ No ☐	_____
Poor appetite	Yes ☐ No ☐	_____
Male	Yes ☐ No ☐	_____
Dehydrated	Yes ☐ No ☐	_____
Short of breath	Yes ☐ No ☐	_____
Cancer (if yes – see Age and Cancer worksheet; if no continue)	Yes ☐ No ☐**	
Age of patient/resident at last birthday _	Age score **without** cancer	_____ (2-9)
	Age score **with** cancer	_____ (13-20)
Deteriorated cognitive skills or status in the past three months	Yes ☐ No ☐***	
Activities of Daily Living score __	ADL score **without** cognitive decline __ (0-16)	
(see ADL and cognitive decline worksheet)	ADL score **with** cognitive decline	_____
21)		

TOTAL MMRI-R SCORE _____ **(0-85)**

- ALS Functional Rating Scale
- Seattle Heart Failure Model
- Palliative Prognostic Score (PaP)
- Advanced Dementia Prognostic Tool (ADEPT)
- BODE Index
- Charlson Comorbidity Index
- Model for End Stage Liver Disease (MELD)
- APACHE

What should we do ? ? ? ? ? ?


The More I Think
The More Confused I Get


I UNDERSTAND
COMPLETELY