

# End of life decision making for neurological patients

**Andrea Pace, MD**

**Neurology Unit**

**Regina Elena National Cancer Institute – Rome, Italy**

*pace@ifc.it*

# Conflict of Interest

Pace, Andrea

- No conflict of interest to declare

# Learning Objectives

- To understand PC needs at the end of life
- To recognize EoL issues in neurological diseases
- To improve knowledge about EoL decision-making-process in neurology
- To be able to manage the most common EoL symptoms and problems

# End-of-life care

## A survey of US neurologists' attitudes, behavior, and knowledge

A.C. Carver, MD; B.G. Vickrey, MD, MPH; J.L. Bernat, MD; C. Keran;  
S.P. Ringel, MD; and K.M. Foley, MD

- 353 neurologists
- 152 neuro-oncologists
- ALS specialists

**“..evident lack of knowledge of the law, and confusion, disagreement or both concerning medical and ethical guidelines..”**

**“..there is a great need for education in palliative care and end-of-life decision-making..”**

# Palliative care and neurology

Time for a paradigm shift

Neurology® 2014;83:561-567

## DO NEUROLOGY PATIENTS HAVE UNIQUE PALLIATIVE CARE NEEDS?

Patients with a life-limiting neurologic illness often have a long and variable disease progression punctuated by cognitive impairment, behavioral issues, and communication problems, in addition to motor symptoms

## WHAT PALLIATIVE CARE SKILLS NEUROLOGISTS NEED?

All neurologists, should have familiarity and comfort with several fundamental palliative care skills including communicating bad news, nonmotor symptom assessment and management, advance care planning, and caregiver assessment.

# Palliative care and neurology

Time for a paradigm shift

Neurology® 2014;83:561-567

## SYMPTOM ASSESSMENT AND MANAGEMENT

Neurologists need to carefully assess nonmotor symptoms such as pain, depression, anxiety, fatigue, sleep, constipation, urinary urgency, and sexual dysfunction.

Multiple studies have shown that nonmotor symptoms over time are among the most function-limiting for patients, and affect caregiver burden and overall quality of life more than motor symptoms.

## ADVANCE CARE PLANNING

All neurologists should be knowledgeable about and feel comfortable discussing advance care planning with their patients while the patient is cognitively able.

**Place of death, and its relation with underlying cause of death, in Parkinson's disease, motor neurone disease, and multiple sclerosis:  
A population-based study**

*Palliative Medicine*  
27(9) 840–846

**Home deaths** MND (27.1%) MS (18.4%) and PD (9.7%)

**Hospital deaths** MND (45.1%) MS (55.8%) and PD (43.4%)

**Hospice deaths** MND (11.2%) MS (2.5%) and PD (0.6%)

# Specific symptoms in neurological diseases

	MOTOR	PAIN	INFECTION	DYSPNOEA	EPILEPSY	DYSPHAGIA	COGN
Stroke	●	●		●	●	● v	●
MS	●	●	●	●		●	
PD	●	●		●		●	●
DEM	●	●	●	●	●	●	●
MND	●	●		●		●	
BT	●	●		●	●	●	●

MS=Multiple Sclerosis ;PD= Parkinson Disease; DEM= Dementia; MND=Motor Neuron Disease; BT= Brain Tumor



# Neurologic Disease at the End of Life: Caregiver Descriptions of Parkinson Disease and Amyotrophic Lateral Sclerosis

TABLE 2. CAREGIVER RATINGS OF PDRD (N = 52) AND ALS (N = 50) PATIENT SYMPTOMS IN THE FINAL MONTH OF LIFE

Symptom	Frequency <sup>a</sup> (Median [IQR])			Severity <sup>b</sup> (Median [IQR])		
	PDRD	ALS	p value <sup>c</sup>	PDRD	ALS	p value <sup>c</sup>
<b>Physical symptoms</b>						
Difficulty eating	3 [2,4]	5 [4,5]	0.001	2 [1,3]	3 [3,3]	0.001
Difficulty communicating	3 [2,4]	3 [2,4]	n.s.	2 [2,3]	2 [1,3]	n.s.
Physical discomfort	3 [2,3]	2 [2,3]	n.s.	2 [1,2]	2 [1,2]	n.s.
Insomnia	2 [1,3]	2 [1,4]	n.s.	2 [0,3]	2 [0,2]	n.s.
Shortness of breath	2 [1,3]	3 [2,3]	0.005	2 [0,2]	2 [1,3]	0.04
Choking	2 [1,3]	2 [1,3]	n.s.	2 [0,3]	2 [0,2]	n.s.
<b>Psychiatric symptoms</b>						
Confusion	3 [2,4]†	1 [1,2]	0.001	2 [1,3]	0 [0,1]	0.001
Depressed mood	3 [1,3]	2 [2,3]	n.s.	2 [0,3]	2 [1,2]	n.s.
Anxiety	2 [1,3]	2 [2,3]	n.s.	2 [0,3]	2 [1,2]	n.s.
<b>Visual analogue rating scales<sup>d</sup></b>						
		Median rating [IQR]				
Frequency of pain	3 [2,4]	3 [2,5]	n.s.			
Severity of Pain	3 [2,5]	3.5 [2,5]	n.s.			
Severity of suffering	4 [2,5]	4 [2,6]	n.s.			
Quality of life in general	3 [2,5]	2 [1,5]	n.s.			
How much is quality of life related to health problems	6 [5,6]	6 [3,6]	n.s.			

# Signs of approaching death

## Triggers for End of Life care

- **Changes in breathing**
- **General deterioration**
- **Lowering of consciousness**
- **Lowered oral intake**
- **Repeated infections**
- **Weight loss**
- **Caregivers' judgment**

# Palliative Care in Amyotrophic Lateral Sclerosis, Parkinson's Disease, and Multiple Sclerosis

TABLE 2. CONSENSUS CRITERIA FOR HOSPICE REFERRAL IN PATIENTS WITH ALS FROM THE ALS PEER WORKGROUP<sup>36</sup>

---

1. FVC < 60% predicted [or rapid decline in FVC (more than 20%) over 2–3 months], or
  2. Clinical signs or clinical symptoms of respiratory insufficiency,<sup>a</sup> or
  3. Respiratory weakness requiring noninvasive positive pressure ventilation (NIPPV), or
  4. Nutritional decline requiring enteral feeding, or
  5. Severe pain or psychosocial distress requiring intensive palliative care interventions (including opioid medication), or
  6. Rapidly progressive (over 2 to 3 months) paralysis in two body regions
-

# Dysphagia as a predictor of outcome and transition to palliative care among middle cerebral artery ischemic stroke patients

**Table 3 Multivariate logistic regression analysis of statistically significant predictors of early transition to palliative level of care**

Variable	Sig	OR* (95% CI)
Age	<0.001	1.105 (1.056-1.155)
Atrial fibrillation	0.529	0.754 (0.313-1.816)
Left vs Right Location of infarct	0.039	0.417 (0.182-0.956)
Admit NIHSS score*	0.017	3.038 (1.222-7.555)
Intraarterial tPA	<0.001	7.106 (2.541-19.873)
Weekday vs. weekend patient admission	0.239	1.690 (0.706-4.049)
Ability to be assessed on 1 <sup>st</sup> swallow evaluation	<0.001	0.053 (0.022-0.131)

Dysphagia severity and the inability to be assessed on the first swallow evaluation due to lethargy, influence early transition to palliative level of care among patients with acute MCA territory stroke.

# End of Life decisions

- **Withdrawing/withholding medical treatment**
- **Symptom management**
- **Place of death**
- **Information and communication**
- **Futility of treatment**
- **How to address patients' wishes**
- **How to address relatives' wishes**

# Palliative care needs of patients with neurologic or neurosurgical conditions

L. M. Chahine<sup>a</sup>, B. Malik<sup>a</sup> and M. Davis<sup>b</sup>

*European Journal of Neurology* 2008, **15**: 1265–1272

**Table 4** Recommendations made by the Palliative Medicine service for patients seen by Palliative Medicine in consultation

Recommendation	Number (%) <i>n</i> = 104
Opioids as needed for pain or dyspnea	
Morphine	44 (42.3)
Fentanyl	8 (7.7)
Methadone	5 (4.8)
Initiation of mucolytic agent	43 (41.3)
Initiation of an antipsychotic as need for agitation	37 (35.6)
Discontinuation of unnecessary medications	31 (29.8)
Discontinuation of vital sign measurement	22 (21.2)
Discontinuation of further laboratory testing	19 (18.3)
Discontinuation of intravenous fluids	19 (18.3)
Discontinuation of percutaneous gastrostomy tube feeds	14 (13.5)
Initiation of intravenous benzodiazepine	13 (12.5)
Organization of a family meeting	12 (11.5)
Social work consultation	10 (9.6)



# Nutrition – Hydration

Ethical challenges:

- Are nutrition and hydration medical treatments?
- Suspending food and water may shorten patient life?
- Prolonging life with artificial nutrition is beneficial for patients dying?

***The principle of proportionality:***

*If a dying patient receiving nutrition and hydration suffers burdens that outweigh the benefit of extended life, artificial nutrition and hydration may be ethically withheld or withdrawn.*

# Palliative sedation

---

**Definition:** intentional reduction of vigilance up to the point of the complete loss of consciousness with the aim of reducing or abolishing the perception of symptoms that would otherwise be intolerable (“refractory”)

**Aim:** The aim of sedation is, like everything else in palliative care, the relief of symptoms and not the shortening of life

**Is palliative sedation a “slow euthanasia”?**

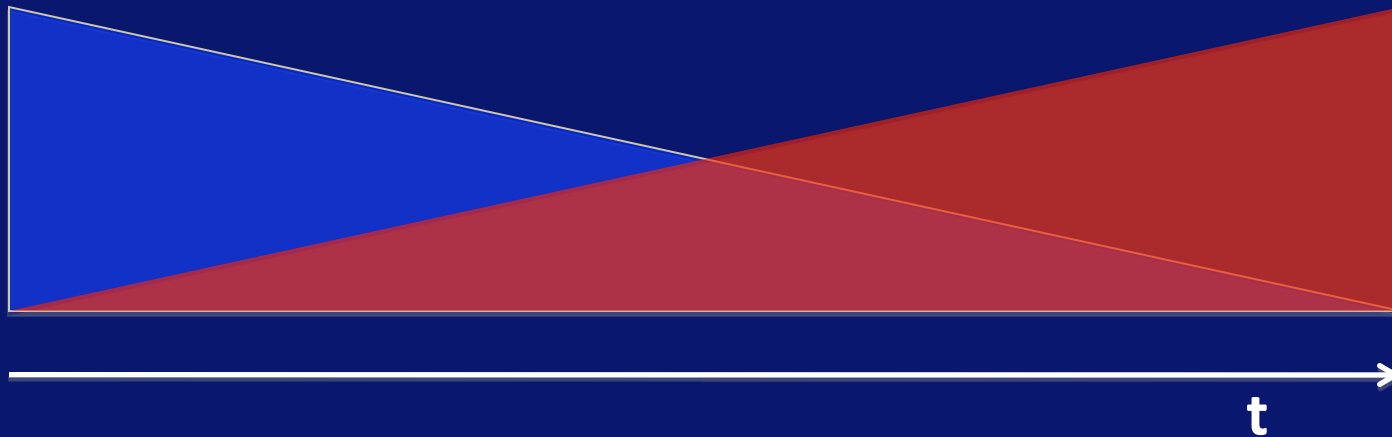
Several studies indicate that there is no difference in the survival of sedated and non-sedated patients  
*(Maltoni, Current Opinion in Oncology 2013)*



# Ethical relevance of patients' competence

Capacity to decide for yourself

Weight of decisions



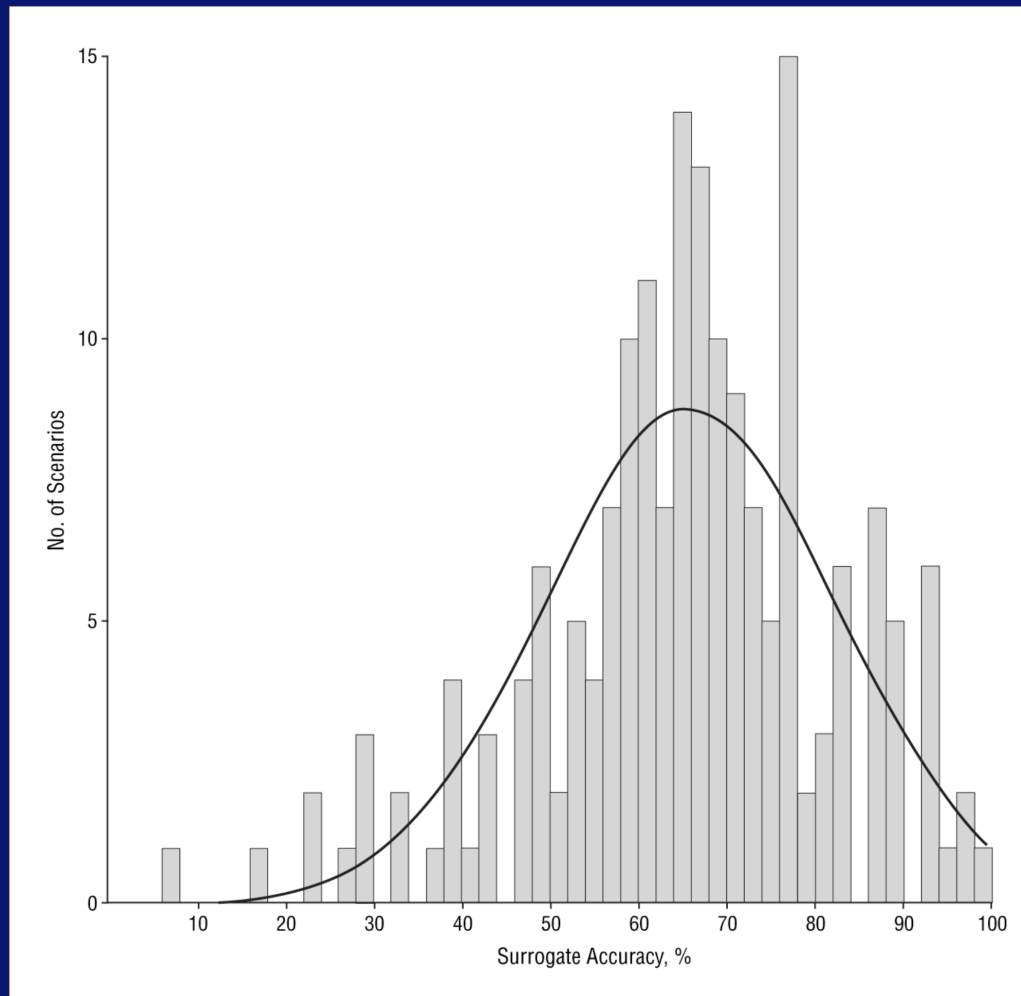
**t** – trajectory of disease

# The Accuracy of Surrogate Decision Makers: A Systematic Review

Arch Intern Med. 2006;166(5):493-497.



The JAMA Network



Adjusted overall accuracy of surrogates, based on meta-analysis, is 68% (95% credible interval, 63-72).

# Advance Care Planning (ACP)

---

## Definition:

Advance Care Plans are one means to ensure that patient and family preferences are negotiated, identified and recorded before the patient is overtaken by disease.

*Loss of capacity is the key to the clinical and legal constitution of ACPs and in many countries, legislation has empowered patients to refuse treatment when they come to regard it as futile or intolerable*

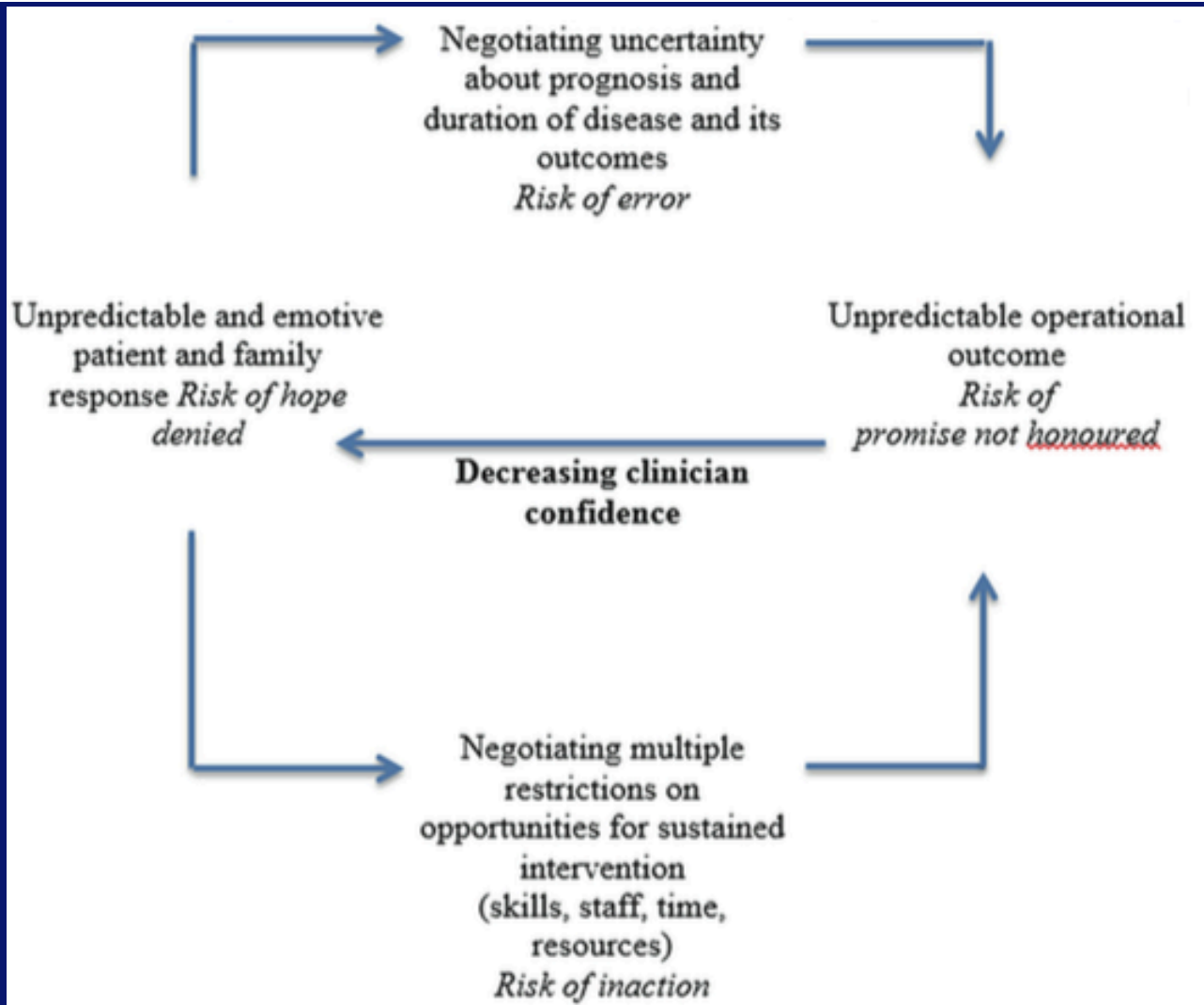
# Advance Care Planning (ACP)

---

## Aims:

- Provide an opportunity to consider existential and relational aspects of impending loss of self at the end of life.
- Provide an opportunity to clearly acknowledge the prospect of death, and in that context to negotiate personal preferences about future treatment decisions between patient, family members and clinicians.
- Make clear a patient's preferences about clinical actions that will follow their loss of capacity (for example, about continuation of treatment or resuscitation).

# Barriers to Advance Care Planning at the End of Life: An Explanatory Systematic Review of Implementation Studies

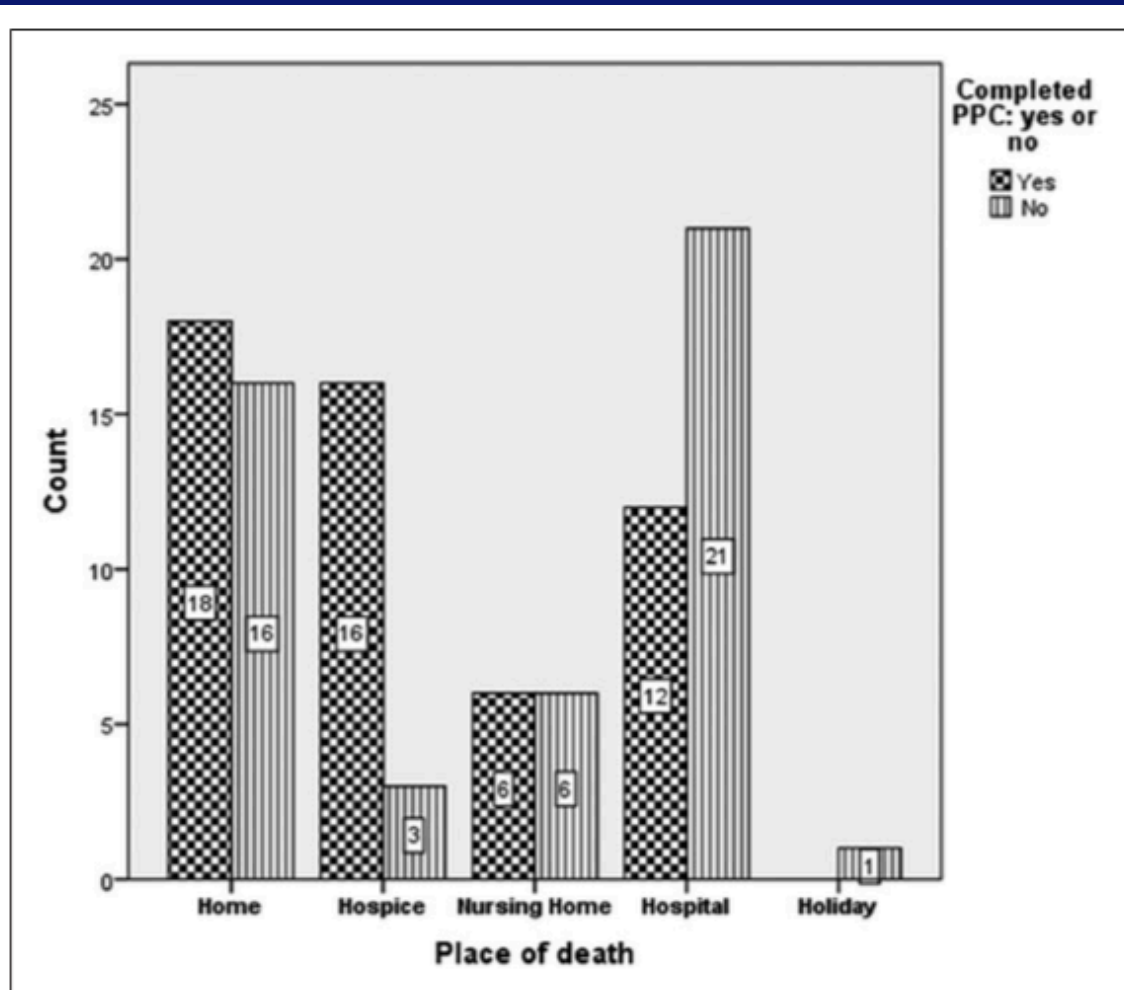


# Choosing the place of death: Empowering motor neurone disease/ amyotrophic lateral sclerosis patients in end-of-life care decision making

*Palliative Medicine*

1-2

© The Author(s) 2015



The Preferred Priorities for Care (PPC) document is a patient-held dynamic record that can be used as an ACP tool to promote discussion and documentation of wishes, preferences and priorities for care in relation to end-of-life issues.

# Take home message

- There are several unique aspects of palliative and End of Life care in neurology as compared with palliative care in other patient populations..
- Therefore, it is imperative that neurologists understand, and learn to apply, the principles of palliative medicine.

# References-1

Foley KM, Carver AC. Palliative care in neurology. *Neurol Clin* 2001;19:789–799.

Boersma I, et al Palliative care and neurology: time for a paradigm shift. *Neurology*. 2014 Aug 5;83(6):561-7.

Voltz R, Borasio GD. Palliative therapy in the terminal stage of neurological disease. *J Neurol*. 1997 Oct;244 Suppl 4:S2-10. Review.

Mandler RN, et al ALS C.A.R.E. Study Group. The ALS Patient Care Database: insights into end-of-life care in ALS. *Amyotroph Lateral Scler Other Motor Neuron Disord*. 2001 Dec;2(4):203-8.

Safarpour D, Thibault DP, DeSanto CL, Boyd CM, Dorsey ER, Racette BA, Willis AW. Nursing home and end-of-life care in Parkinson disease. *Neurology*. 2015 Jul 2.

Connolly S, Galvin M, Hardiman O. End-of-life management in patients with amyotrophic lateral sclerosis. *Lancet Neurol*. 2015 Apr;14(4):435-42.



## References-2

Sleeman KE, Ho YK, Verne J, et al. Place of death, and its relation with underlying cause of death, in Parkinson's disease, motor neuron disease, and multiple sclerosis: a population-based study. *Palliat Med* 2013;27:840–846.

Temel JS, Greer JA, Muzikansky A, et al. Early palliative care for patients with metastatic non-small-cell lung cancer. *N Engl J Med* 2010;363:733–742.

Gomes B, Calanzani N, Gysels M, Hall S, Higginson IJ. Heterogeneity and changes in preferences for dying at home: a systematic review. *BMC Palliat Care* 2013;12:7.

Mitchell SL, Kiely DK, Hamel MB. Dying with advanced dementia in the nursing home. *Arch Intern Med* 2004; 164:321–326.

Schulz R, Beach SR. Caregiving as a risk factor for mortality: the Caregiver Health Effects Study. *JAMA* 1999;282:2215-2219.

Voltz R, Nübling G, Lorenzl S. Care of the dying neurologic patient. *Handb Clin Neurol*. 2013;118:141-5.

## References-3

Bernat JL. Ethical and legal issues in palliative care. *Neurol Clin* 2001;19:969–987.

Turner-Stokes L, Sykes N, Silber E, Khatri A, Sutton L, Young E. From diagnosis to death: exploring the interface between neurology, rehabilitation and palliative care in managing people with long-term neurological conditions. *Clin Med* 2007;7:129–136.

Stuart B, Alexander C, Arenella C. *Medical Guidelines for determining prognosis in selected non-cancer diseases.*, 2nd ed. Arlington, VA: National Hospice Organization, 1996.

Rothenberg LR, Doberman D, Simon LE, Gryczynski J, Cordts G. Patients surviving six months in hospice care: who are they? *J Palliat Med*. 2014 Aug;17(8):899-905.

Gillum LA. Palliative care and neurology: time for a paradigm shift. *Neurology*. 2015 Mar 17;84(11):1184.

Pace A, Di Lorenzo C, Guariglia L, Jandolo B, Carapella CM, Pompili A. End of life issues in brain tumor patients. *J Neurooncol*. 2009 Jan;91(1):39-43.