

# 중환자실에서의 연명의료

## Life Sustaining Treatment in ICU

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호스피스 · 완화의료 및  
임종과정에 있는 환자의  
연명의료결정에 관한 법률  
(약칭 : 연명의료결정법)

- 2016.2.3 제정, 2017.8.4 시행  
(연명의료중단 관련 절차에 관련한 법안은 2018.2.4 시행)
- 목적 (제1조) : 환자의 최선의 이익을 보장하고 자기결정을 존중하여  
인간으로서의 존엄과 가치를 보호하는 것

- **"말기환자"** : 질환에 대하여 적극적인 치료에도 불구하고 근원적인 회복의 가능성이 없고 점차 증상이 악화되어 담당의사와 해당 분야의 전문의 1명으로부터 수개월 이내에 사망할 것으로 예상되는 진단을 받은 환자
- **"임종과정에 있는 환자"** : 회생의 가능성이 없고, 치료에도 불구하고 회복되지 않으며 급속도로 증상이 악화되어 사망에 임박한 상태로 담당의사와 해당 분야의 전문의 1명으로부터 임종과정에 있다는 의학적 판단을 받은 자
- **"연명의료"** : 임종과정에 있는 환자에게 하는 심폐소생술, 혈액 투석, 항암제 투여, 인공호흡기 착용의 의학적 시술로서 치료효과 없이 임종과정의 기간만을 연장하는 것

	임종과정에 있는 환자	말기환자
대상 질병	질병 제한 없음	암, AIDS, 만성폐쇄성호흡기질환, 만성간경변 등
확인	담당의사 + 해당분야 전문의 1인	담당의사 + 해당분야 전문의 1인
상태	급속도로 증상이 악화되어 사망에 임박한 상태	점차 증상이 악화되어 수개월 이내에 사망할 것으로 예상

대상 : 회복 불가능하며  
급속한 임종과정에 들어선 환자

대상환자 판단 (의사2인)

환자의 의향 확인

의사결정 능력 有

① 연명의료 **계획서** 작성

or

② 사전연명의료 **의향서(+)**  
-담당의사가 환자에게 확인

의사결정 능력 無

환자 의향 추정 가능

① 사전연명의료 **의향서(+)**  
& 의사2인 확인

② **의향서(-)**:가족 2인 이상  
일치하는진술&의사2인 확인

환자 의향 추정 불가

① 가족**전원합의**  
& 의사2인 확인

② 법정대리인(미성년자)  
& 의사2인 확인

연명의료중단등결정 및 이행

연명의료결정 이행 보고 (국립연명의료관리기관)

\*환자가족의 범위  
(가족관계증명서로 확인)

가. 배우자

나. 직계비속 (자녀)

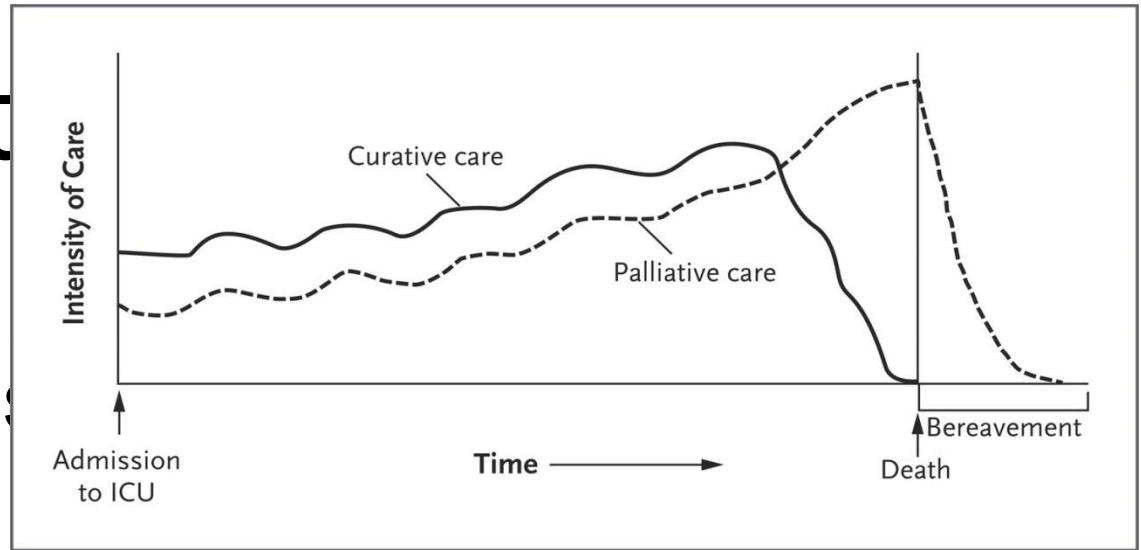
다. 직계존속 (부모)

라. (없을 경우) 형제자매

\*미성년자의 경우

- 친권자

Pat



1) Definite Intensity



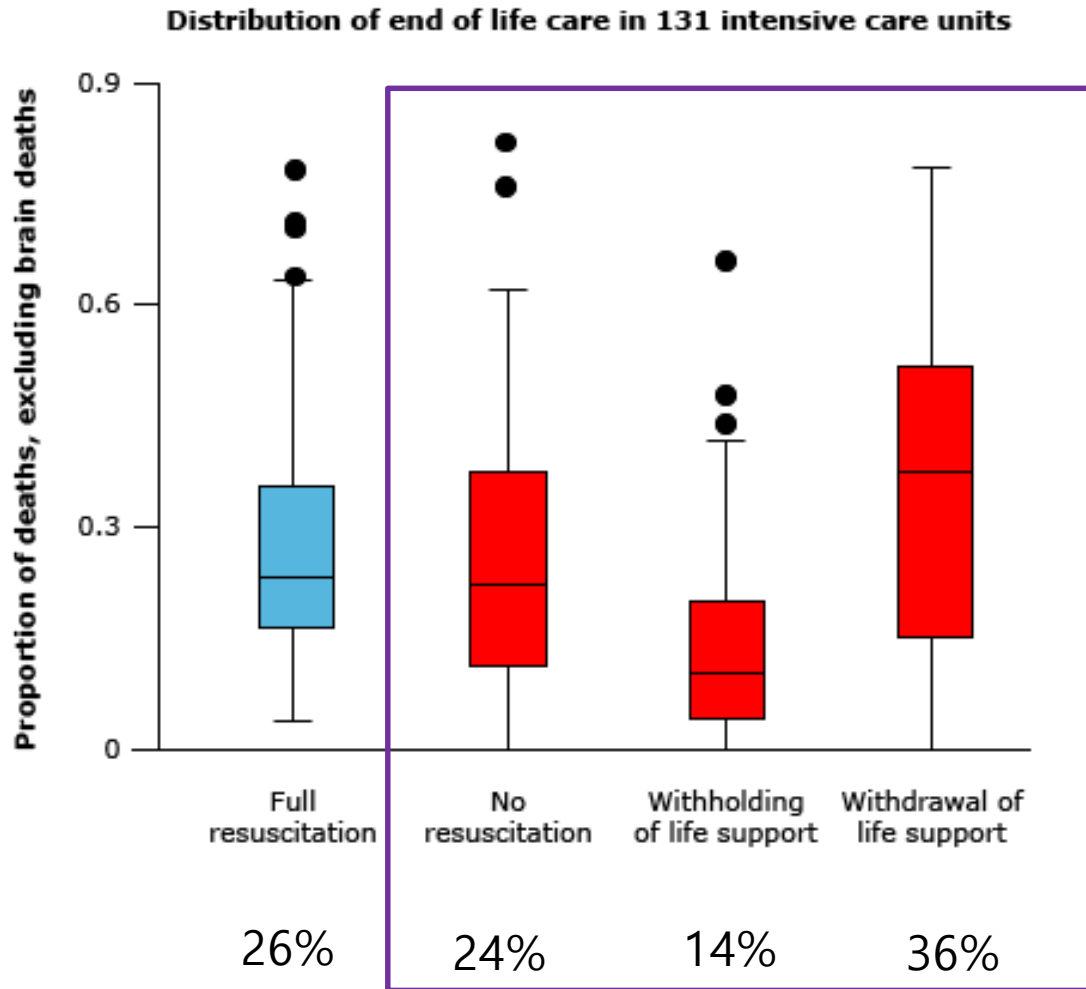
2) No decision on Life Sustaining Treatment  
Curative *vs.* Palliative (Futile)

→ Decision, Limiting LST

“중환자실에서의 연명의료 **중단**”

**Limiting** of Life Sustaining  
Treatment in ICU

# Most ICU deaths from Limiting LST



Prospective survey of deaths in American ICUs - high frequency of decisions to limit LST.

# Withhold or withdrawal of LST

- Difficult for patients, families, clinicians
- Influenced by many factors
  - Patient's prognosis (disease severity)
  - Individuals' values and treatment preferences
  - Cultural, philosophical, and religious beliefs
  - Familial preferences
  - Legal problem (?)

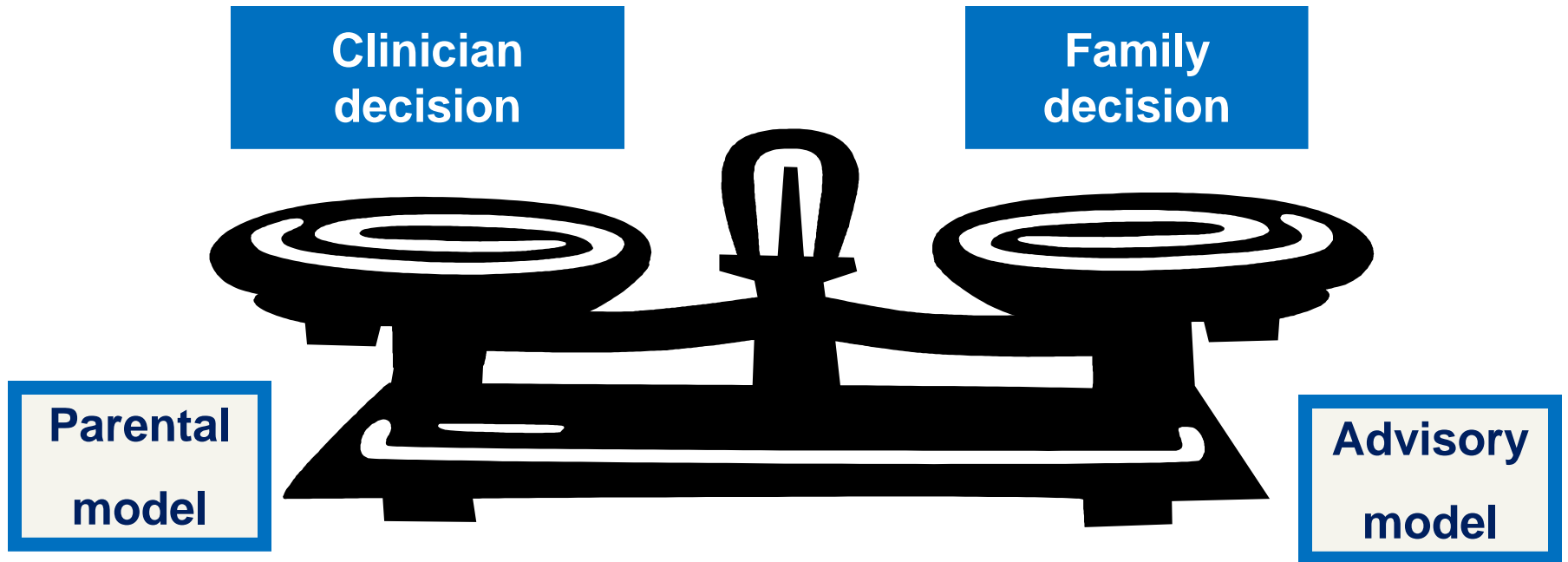
# Challenges Unique to ICU Setting

- Patient often not a participant in discussions
- Often no prior relationship with patient or family



# **HOLDING A FAMILY MEETING AND SHARED DECISION MAKING**

# Shared-decision making

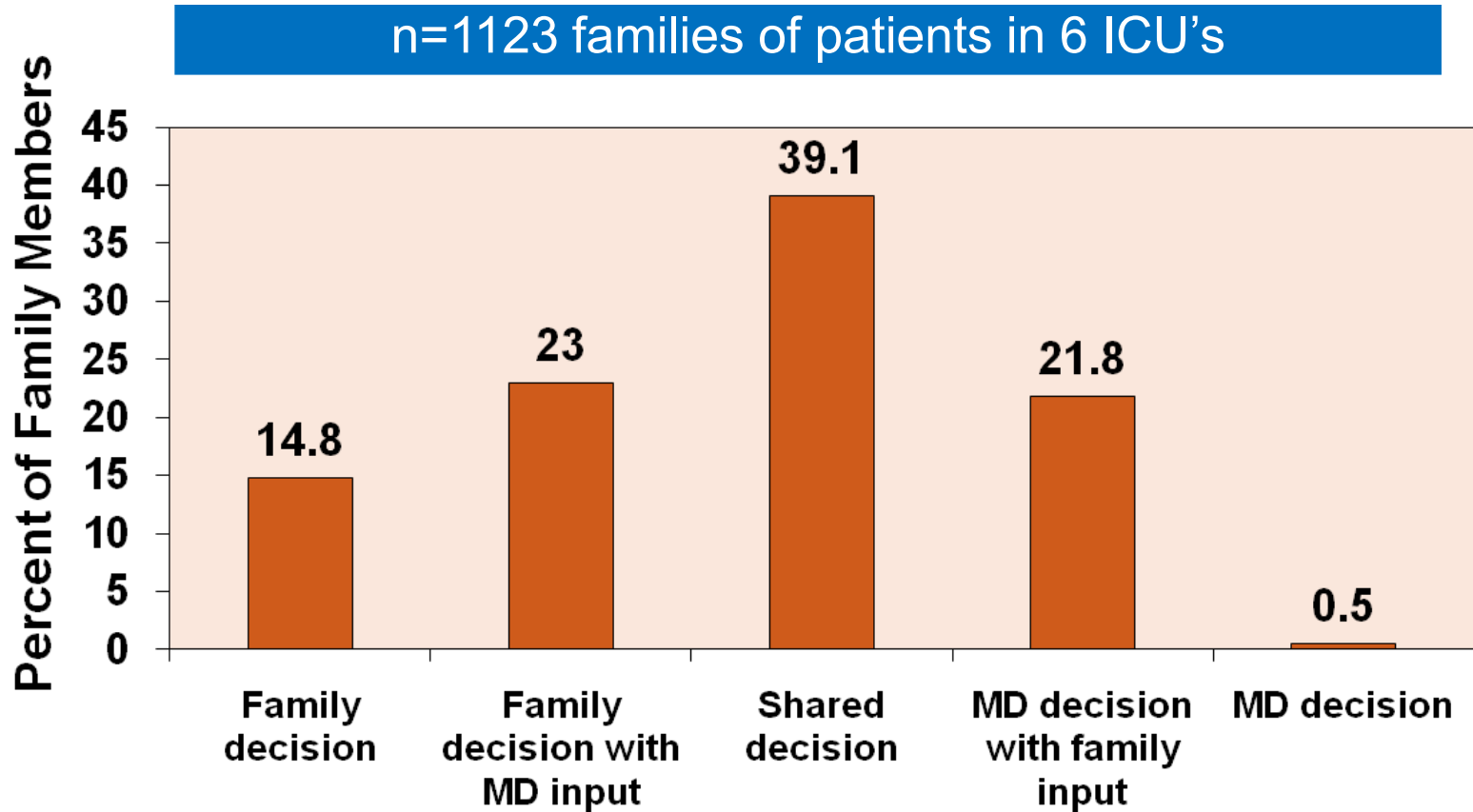


Treatments that are indicated  
Prognosis  
Level of certainty  
Patient/family: patient values & preferences

# ATS, SCCM, ERS, ESICM Consensus Conference on EOL care

“ We advocate a shared approach  
to end-of-life decision-making,  
with responsibility for the decision  
shared between the caregiver team  
and the patient’s surrogate”

# Family Preferences for Role in Decision-making



# Symptoms of PTSD Higher with Discordance in Decision-making Role

- Families of patients dying in the ICU or within 30 h of ICU discharge in 11 Washington State hospitals
- Posttraumatic stress disorder (PTSD) and depression with follow-up surveys

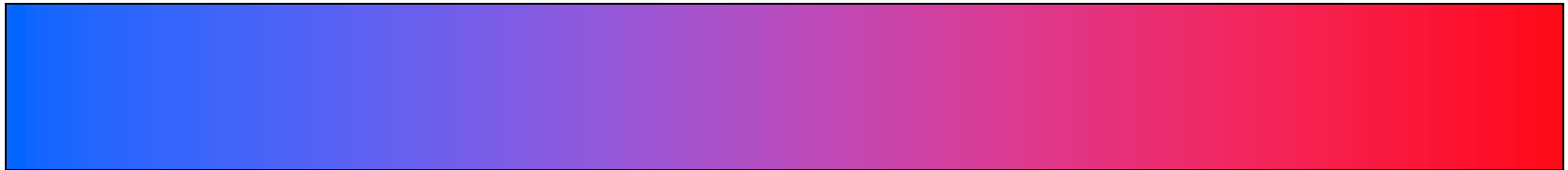
	PTSD Symptoms				
	No. (218)	% Yes	$\beta$ (SE)	<i>P</i>	95% CI
Preferred to be involved in decision making	206	85.0	-5.670, (2.989)	.059	-11.564-0.224
Was involved in decision making	213	84.0	-4.313 (2.595)	.098	-9.428-0.803
<b>Concordance</b> between preferred/ actual role	205	86.3	<b>-8.329</b> (2.949)	<b>.005</b>	-14.143 to -2.515

# “Right Approach” to Parentalism vs. Autonomy

Default Starting Place

Prognosis and Certainty

Family preference



Parentalism or Doctor  
Decides



Autonomy or  
“Informed Choice”

Shared Decision Making

# **HOW TO HOLD FAMILY MEETING?**

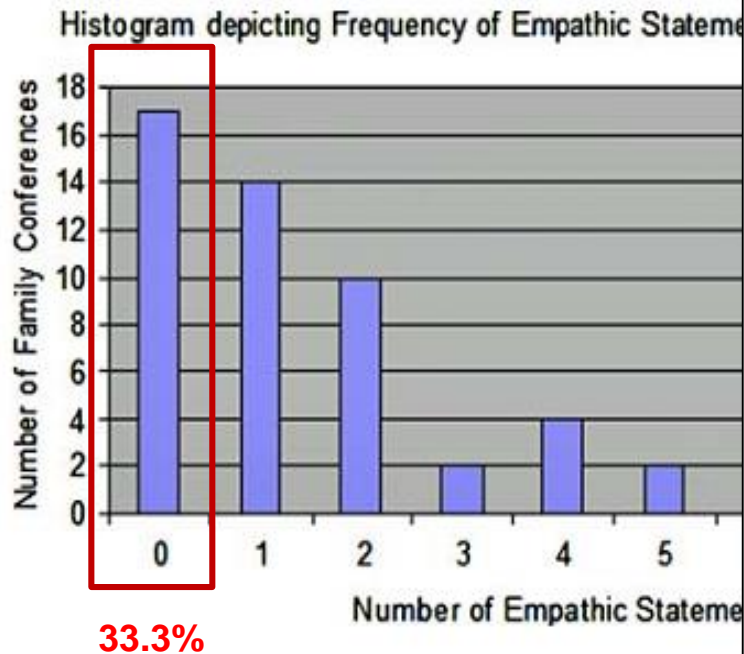
## **- COMMUNICATION SKILLS**

# Family meeting in ICU (± Discussing limiting LST)

- **ASAP**, almost always within the first 48 hours
- Purpose of initial meeting
  - Explain the medical situation
  - Patient's values, preferences(establishing goals)
  - Provide emotional support to the family
  - Begin to develop a trusting relationship

# Empathy and Family Satisfaction

- 51 Clinician-family conferences (end-of-life decisions)
- Audiotaped (2000–2002)



## Association between Empathy and Family Satisfaction

On a 10-point scale, the average family satisfaction with communication score was  $9.0 \pm 1.3$ ; (range 1 - 10). There was no evidence of clustering in family satisfaction scores by physician among physicians who conducted more than one conference. There was a statistically significant association between more empathic statements and higher family satisfaction with communication ( $p=0.04$ ). For each increase in the number of empathic statements by one, there was a 0.12 increase in the family satisfaction score (standardized effect size: 0.1). For conferences in which there were no empathic statements, the average family satisfaction score was 8.9 compared to 9.7 in conferences in which there were at least two empathic statements ( $p<0.05$ ).

Figure 1. Frequency distribution of empathic statements

# Physician's Barrier

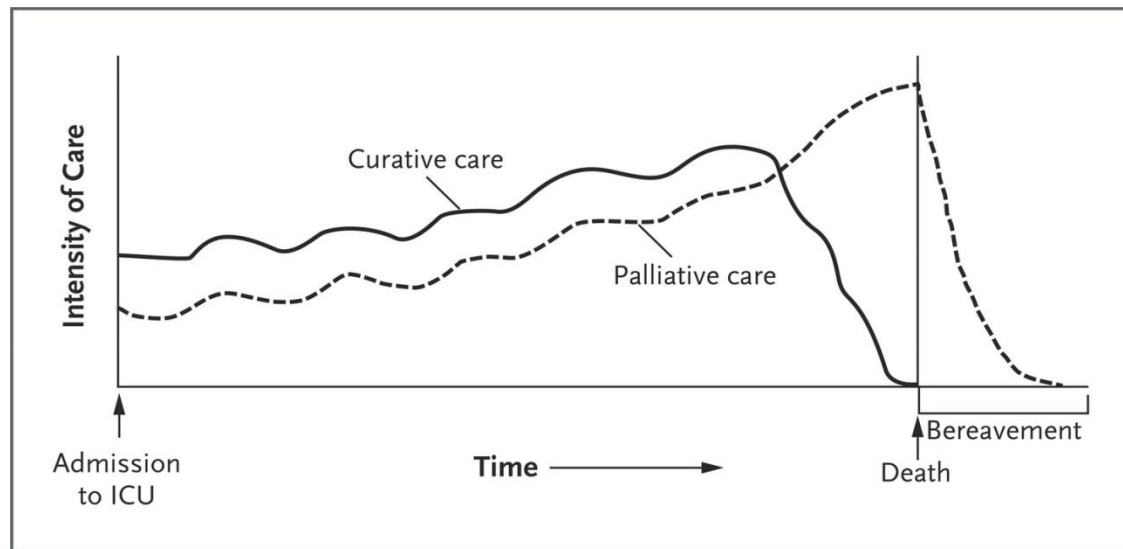
- Physician's feeling of failure and sadness
  - Delaying EOL conversations, communicating euphemistically, giving overtly optimistic prognosis

## ❖ “Emotional fatigue, Compassion fatigue”

- Informal debriefing
- Local meetings with other professionals
- Formal bereavement counseling
- Modified work assignments

# Discussing withholding or withdrawing MV

- Care transition to palliative care
- **Avoid** the phrase **"withdrawal of care"**
- Emphasize that **care focused on symptomatic management and palliative care will continue.**



# Time-Limited Trials Near the End of Life

## **Box. Strategy for Discussing a Time-Limited Trial (TLT)**

### **Preparation**

Select a main medical communicator and key clinicians to involve

Identify key patient and family decision maker(s)

Seek consensus among medical teams about clinical condition and prognosis

Identify clear clinical markers of improvement or deterioration

### **Beginning of the Family Meeting**

Each person should introduce himself or herself, including how he or she relates to the patient

Review purpose of meeting

Solicit family members' views of patient's situation

Reconcile clinicians' understanding with that of the patient or family

### **Consider a TLT**

Propose key components of TLT

Discuss how progress will be measured and communicated

Negotiate time frame for reevaluation

Schedule a follow-up meeting

### **Follow up at Scheduled Intervals Depending on the TLT**

Regularly inform family about progress

If treatment is working, propose next steps

If treatment is not working, next steps might include (1) negotiating a different TLT or (2) proposing a plan for treatment withdrawal

- 1) Define clinical problem and prognosis.
- 2) Clarify the patient's goals and priorities.
- 3) Identify objective markers of improvement or deterioration.
- 4) Suggest a time frame for reevaluation.
- 5) Define potential actions at the end of the TLT.

# For effective communication

## ❖ Checking family's understanding

## ❖ Frequent summarizing

- 35% of surrogates did not understand the physician's explanation about the diagnosis and care options
- Difficulty processing medical data at a time of crisis and grief

# For effective communication

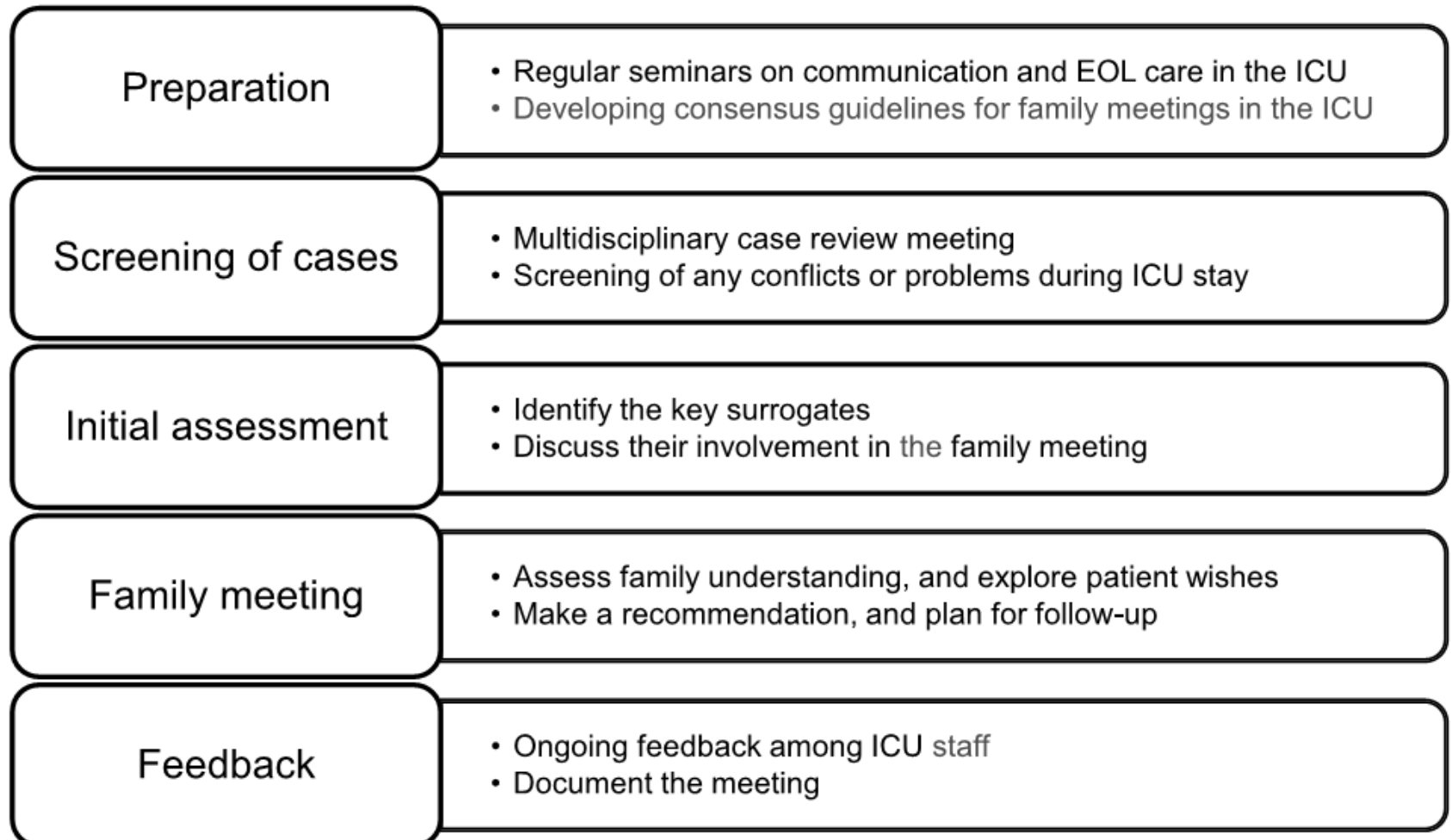
## ❖ Talking openly

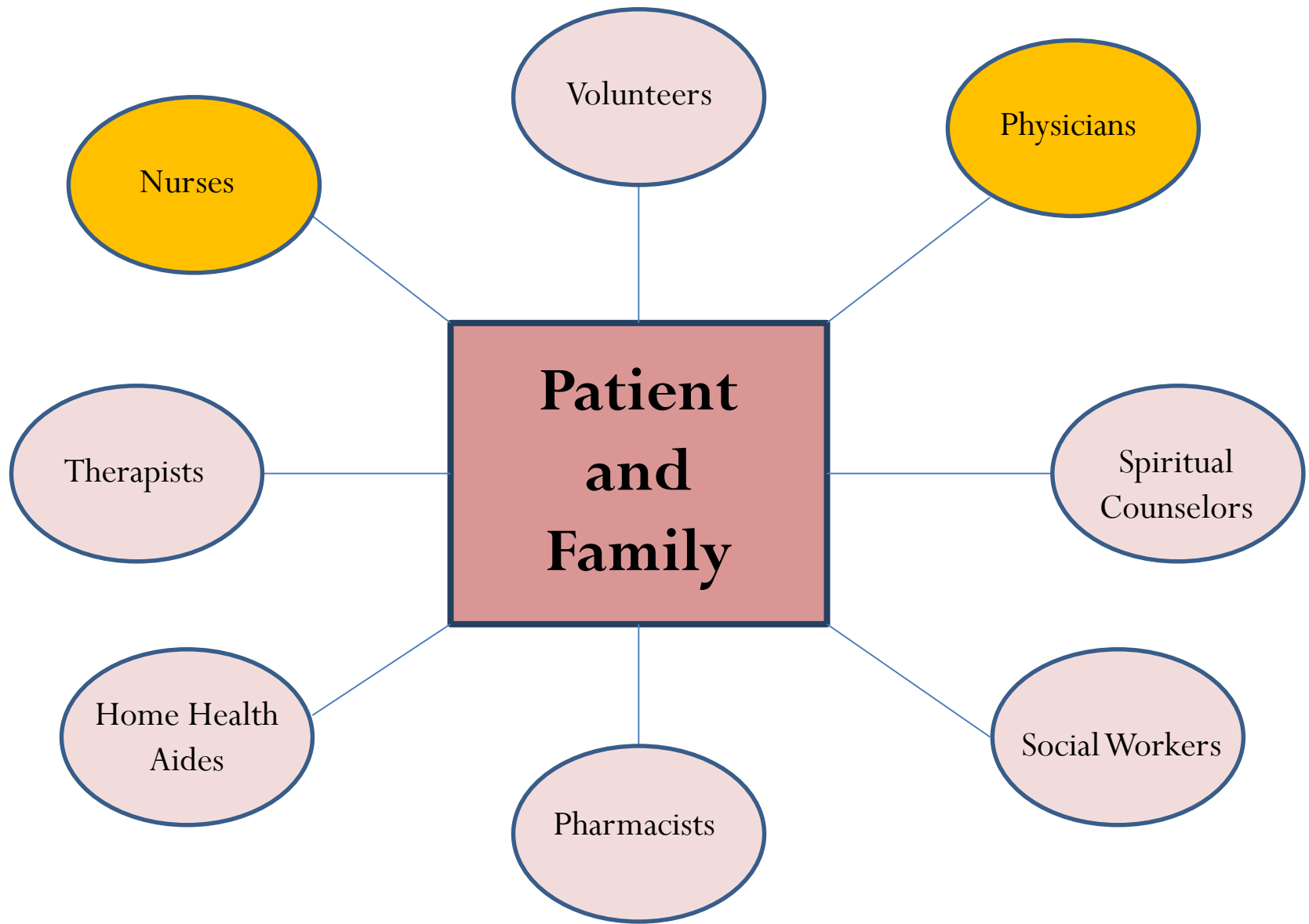
-> Euphamism (X)

## ❖ Listening

- ICU physicians spoke for 70% and families for 30% during family meetings
- satisfaction associated with more opportunity to speak

# Flow chart for organizing the ICU family meeting





**TABLE 2 Summary of Family Meetings and Patient's Outcome**

	Age, y/Sex	Purpose of Family Meeting	Decision Made After Family Meeting	Outcome	ICU Stay Before Meeting, d	ICU Stay After Meeting, d	Duration of Meeting (% of Family Speech), min
1	86/M	(1) Explain about postoperative pulmonary complication; (2) discuss the future plan	DNR, withhold LST	Died during the ICU admission	14	3	35 (69%)
2	47/M	Discuss the therapeutic options for active treatment	(1) Full active treatment including ECMO, LT; (2) meeting with social workers for financial support	Improved after ECMO, discharged to home	6	13	24 (38%)
3	82/F	Discuss the future therapeutic plan after self-extubation	DNR, DNI supportive care	Transferred to IMC, died because of respiratory failure	7	2	21 (29%)
4	84/M	Explain tracheostomy, discuss the future plan	(1) Follow patient's last will; (2) DNR, withdrawal LST	Extubated and transferred to IMC, died because of MDR bacteria infection	19	1	22 (55%)
5	78/F	Explain tracheostomy, discuss the future plan	Supportive care	Tracheostomy, discharged to nursing home	16	7	26 (46%)
6	84/M	Discuss the future plan before extubation	Family members' wish for DNI and DNR	Successful extubation, discharged to long-term care hospital	3	4	25 (60%)
7	79/M	Discuss the future plan before extubation	(1) Follow patient's last will; (2) DNR, DNI, refusal to any LST	Successful extubation, discharged to long-term care hospital for palliative care	18	0	17 (53%)
8	60/M	Explain about patient's irreversible prognosis after CPR and need for EOL care	(1) Decision not made; (2) continuing LST, including CPR	Recurrent cardiac arrest, died during the ICU admission	11	8	25 (63%)

7 family meetings were successfully conducted

# **PRACTICAL ASPECTS OF WITHDRAWING MECHANICAL VENTILATION**

# To family

- Preparing loved ones as witnesses of the dying process, including informing them of the anticipated changes in the respiratory pattern that often occur.
- Allowing families to spend time with their loved one prior to withdrawal of mechanical ventilation, in order to say goodbye and to facilitate a life review.

# Physician's preparation

- Do-not-resuscitate (DNR) order
- Analgesics and sedatives are at the bedside
  - infusions and bolus doses of rapidly acting agents (eg, fentanyl and lorazepam) to manage acute symptoms
- Discontinue interventions that do not provide comfort

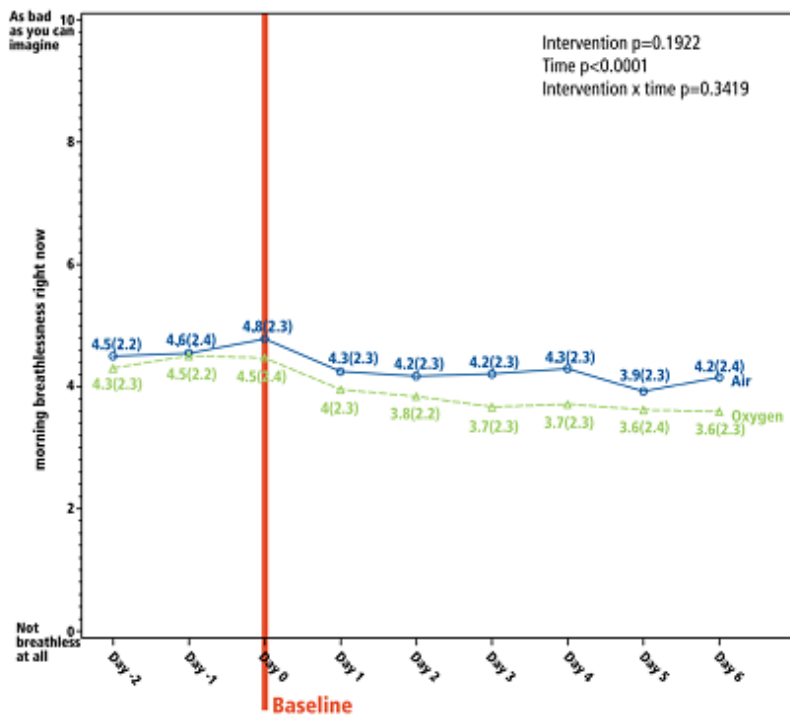
# Interventions that do not provide comfort

- Routine monitoring of vital signs, if appropriate
- Routine evaluations - eg, blood draws, x-ray
- Medications (eg, antibiotics, vasopressors)
- Interventions (eg, dialysis)
- Neuromuscular blocking agents
- Supportive measures ? (eg, nutrition or intravenous fluids)
- Oxygen ?
  - mask (communication, uncomfortable), placebo effect

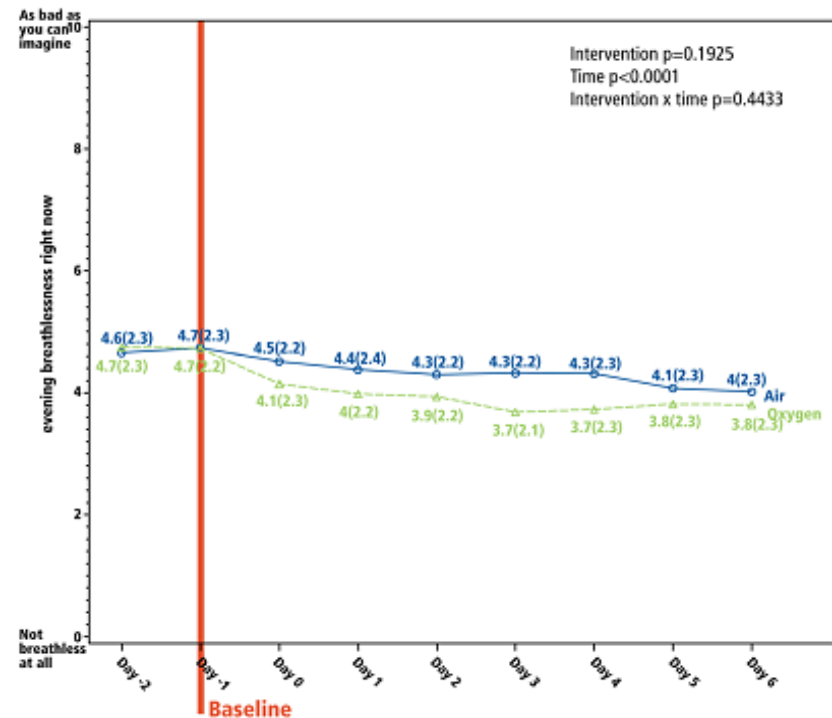
# No additional symptomatic benefit of oxygen for relieving refractory dyspnea

- Recruited from outpatient clinics at 9 sites (Australia, United States, England)
- Oxygen or medical air via nasal cannula at 2 liters/minute for 7 days
- Primary outcome measure: breathlessness (0-10 NRS), measured twice daily
- Participants (N=239)

A. Impact of medical gas intervention on morning dyspnea



B. Impact of medical gas intervention on evening dyspnea



# Methods of MV Withdrawal

- Terminal weaning (titrated off)
- Immediate extubation
- Optimal approach ?

## ORIGINAL



Terminal weaning or immediate extubation for withdrawing mechanical ventilation in critically ill patients (the ARREVE observational study)

Prospective observational multicenter study  
43 French ICUs

Terminal weaning vs. immediate extubation  
PTSD in relatives 3 months after the death

	Immediate extubation n = 210	Terminal weaning n = 248	p value
During the dying process			
Patient's vital signs			
Airway obstruction, n (%)	138 (65.7)	128 (51.6)	0.002
Gasping, n (%)	94 (44.8)	50 (20.2)	<0.001
<div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <ul style="list-style-type: none"> <li>• IES-R scores in relatives after 3 months – 31.9 ± 18.1 vs. 30.5 ± 16.2, p = 0.36</li> </ul> </div>			
At time of death			
Time to death from extubation or first change in ventilator settings for terminal weaning (h), median [IQR]	2.7 [0.4; 10.9]	3.9 [1.0; 17.8]	0.68
Death in the ICU, n (%)	199 (94.8)	248 (100.0)	<0.001

# Withdrawal of ventilatory support

- Terminal weaning(titrated off)
  - for patients who require high levels of ventilator support
  - appropriate titration of narcotics and analgesics at each step to minimize patient discomfort
- Immediate extubation
  - for patients with severe neurological injuries with minimal requirements of ventilator support
  - very careful anticipatory dosing of opioids and close monitoring immediately after extubation given the risk of temporary respiratory distress

# Misperception

- It is unethical to administer sedatives and analgesics to dying patients if doing so may hasten death.

# The principle of double effect

- Clinicians have a moral and ethical obligation to treat pain and other symptoms in a dying patient, even if doing so might hasten the patient's death.
- Intended effects
- Foreseeable unintended effects

# Doctrine of double effect applies

- The unintended effect cannot be the means to achieve the intended effect.
  - Ex) administering KCl will likely alleviate pain in the critically ill patient....
- The intended effect must be sufficiently important to justify the fore-seeable but unintended outcome.
  - Ex) in a patient very close to death, the relief of distressing symptoms is sufficiently important to permit the possibility of a hastened death from aggressive symptom management.

# Process to remove MV

- ① **Decrease MV support settings incrementally** – With each reduction, careful assessment and treatment of any signs of respiratory distress are required.
- ② **Administer bolus doses of IV analgesics** (eg, fentanyl, morphine) as appropriate to treat any symptoms (eg, dyspnea), patient evaluation (eg, for signs of pain or suffering)
- ③ **Assess the need for anticipatory dosing of opiates and sedatives immediately prior to extubation**
- ④ **Extubate the patient** - free the patient from unnecessary lines and tubes prior to death, and facilitate a more natural dying process

# Measures post-extubation

- Continue to assess and treat symptoms after extubation
  - frequent patient monitoring and treatment of symptoms
  - uncontrollable symptoms - palliative sedation for appropriate level of comfort
- Surrogates and/or family members should be kept informed on the clinical status of their loved one during the process of ventilator withdrawal and thereafter
- Bereavement support should be offered to the surrogates and families
  - If available, communicate with palliative care teams

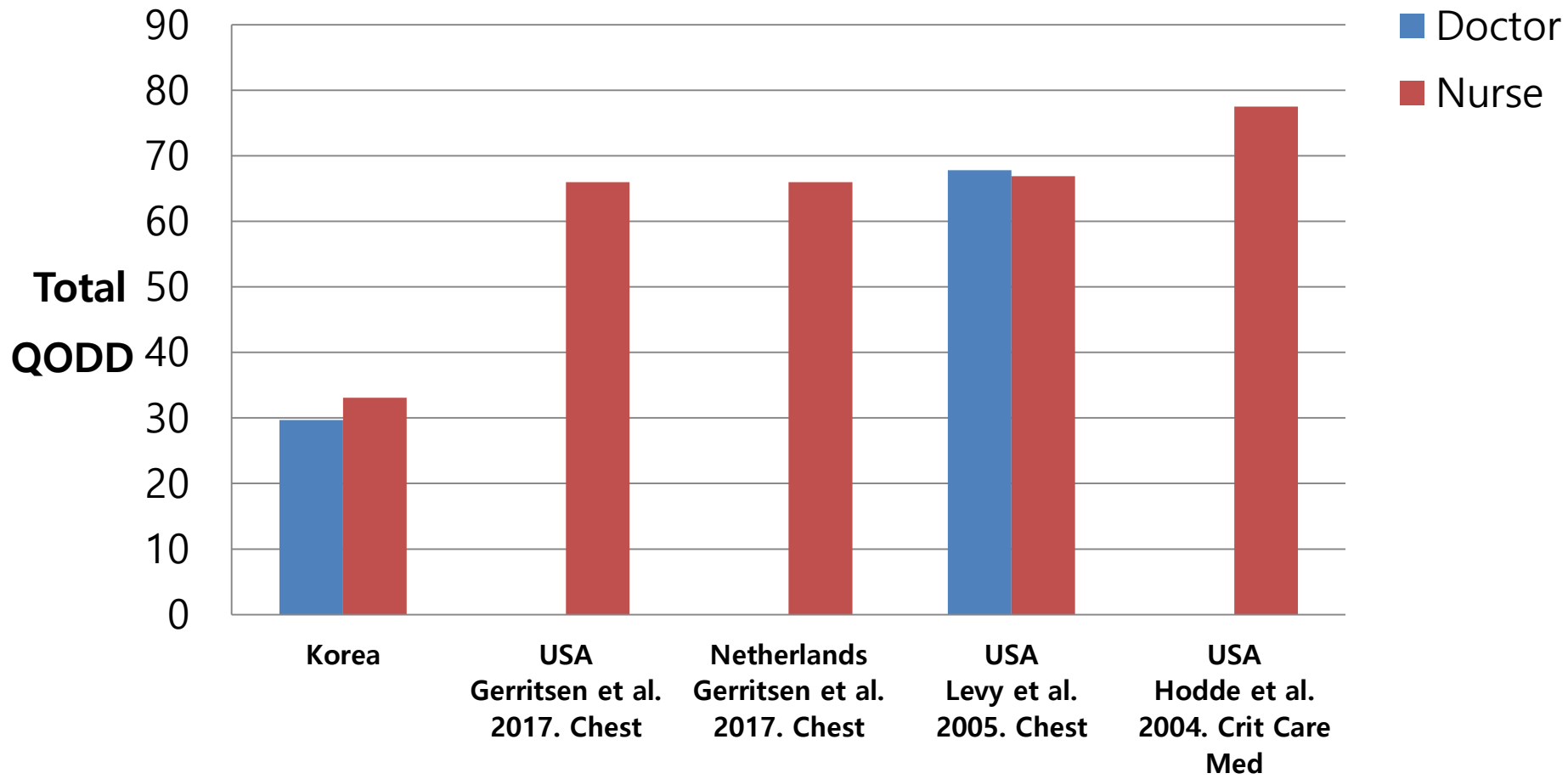
# Summary-1

- Hold a ICU family meeting ASAP
  - Shared decision making
  - Patients' preferences and value
  - Empathy, emotional support
  - Withdrawal/withhold LST
  - : Care transition to palliative aim
  - : Time-Limited Trial

# Summary-2

- Withdrawal of ventilator support
  - Preparation: Physician(orders)
  - Terminal weaning, immediate extubation
  - Appropriate symptom manage
  - Continue to monitor and treat symptoms after extubation

# Quality of dying in 4 Korean medical ICUs



*I don't want to die, but I want to die well as well*



*Let them die with dignity...*