MEDICAL ethics in nephrology

Bart De Moor
Jessa Hospital, Hasselt

Disclosure

- Consultancy honoraria: Amgen, BMS, Daiichi Sankyo
- Chairman of the Ethics Committee of Jessa Hospital
- Former chairman of the NBVN (Dutch-speaking Belgian Nephrologists)
- No ethical background
- Nephrologist: P4P (= payed for performance)

Topics

A. Definitions
B. Ethical considerations throughout nephrological care
C. Ethical dilemmas
   A. To withhold
   B. To escape
   C. To withdraw

Part A: Definitions

- Morals and values
- Ethics
  - Code of conduct
- Laws and regulations

Morals

Deeply rooted community broad values, agreed upon on the basis of

- Religion
- Heritage
- Experiences
- International norms

Example: Trade in Organs is morally unacceptable

Ethics

Professional code of conduct, reflecting values and meeting the broad morals

Various stakeholders in the community have different codes of ethics, which collectively achieve the community's morals

Laws and regulations

Enforcement of particular actions to achieve critical society's morals that cannot be left to variable individual ethical behaviors.

The law cannot replace ethics. It may address logistics unrelated to ethics, and many ethical issues are not subject to legal regulations

Example: Transplant ethics, transplant law ...

Laws and regulations

- Law 1986: donation and transplantation
- Royal Decree of 08/1994: local ethics committees
- Law 08/2002: rights of the patient
- Law 05/2002: euthanasia
- Law 06/2002: palliative care
- Law 04/2004: experiments on humans
- General data protection regulation

Morals, Ethics and Law

Ethical Principles 1

- Autonomy
  - Non-judgmental respect for persons
  - Truthfulness and honesty
  - Informed consent
  - Confidentiality
- Beneficence
- Non-maleficence
- Justice

Beauchamp, Childress

Ethical Principles 2

- Behave professionally
- Educate yourself continuously
- Respect your colleagues
  Cooperate with your colleagues
  Consult experts

Part B:
Ethical considerations throughout nephrological care

1. First encounter
2. Diagnostic procedures
3. Treatment
4. Attestations
5. Transplantation
6. End stage kidney disease
7. End-of-Life care

1. First encounter

- Identify yourself
- Respect the patient (dignity, privacy)
- When patient is unconscious
  - Legal representative or Health Care Proxy
  - Trustee or confidential advisor

2. Diagnostic Procedures

- Informed consent
  - Process of information and checking: Ask/tell/ask
  - Noted in medical file
  - Signed or not

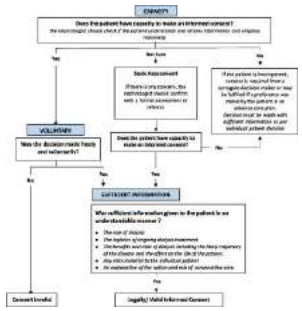
- Medical file
  - Entire medical file is owned by the patient
  - Except personal notes
- Genetics and Nephrology
  - Diagnosis
  - Pre-implantation diagnostics

3. Treatment

- Experimental treatments
  Medical need program
- Study protocol
  - ICH GCP: each individual involved in conducting a trial should be qualified by education, training and experience to perform his/her respective task
- Informed consent when starting RRT

ICH GCP =International Conference of Harmonization: Good Clinical Practice

The elements of a legally valid consent for dialysis.



Frank Brennan et al. CJASN 2017;12:1001-1009

CJASN

4. Attestations

- Invalidity
- Insurance
- Driver license
- Essential medical services for refugees

5. Transplantation

- Candidacy
- Living donor
- Cadaveric donor
  - Allocation system
  - Non heart beating donor
    Donor after euthanasia

6. End-Stage Kidney Disease

- To inform
- Shared-decision
- To choose for RRT or to opt for maximal conservative care
- Instruments
  - Renal and vital prognostic tools
  - Depict clinical trajectories
  - Probing for the patients' preferences

7. End-of-Life care

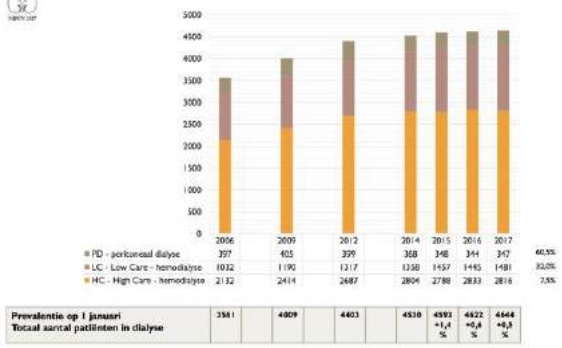
- Clinical situations
  - Withdrawing dialysis
  - Palliative Care
  - Euthanasia
- Instruments in end-of-life care
  - From patients' perspective: living will
  - From doctors' perspective: DNR-codes, decisions limiting therapeutic efforts when futility is obvious
  - Combined: advance directives

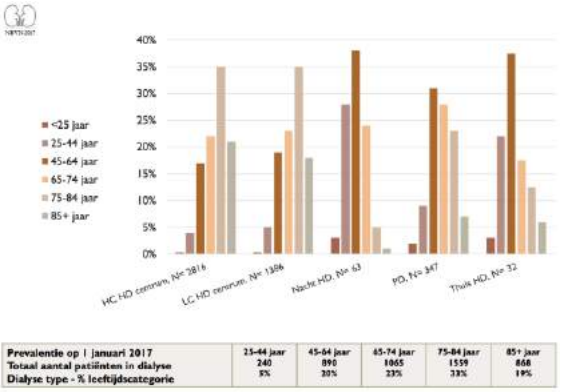
Part C: dialysis dilemmas

To withhold

To escape

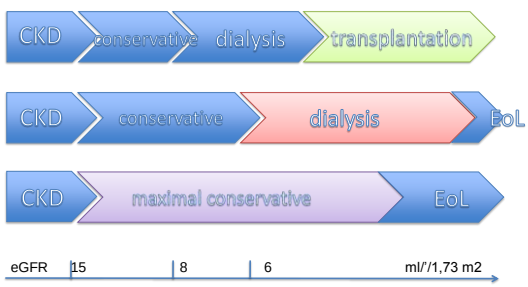
To withdraw





3 possible strategies

Williams, M. E. Tough Choices: Dialysis, Palliative Care, or a Third Option for Elderly ESRD. Seminars in Dialysis 25, 633–639 (2012).



CKD= chronic kidney disease
EoL = end of life

1. To withhold

Invalidated male of 66 years of age

- First consultation: accompanied by his sister.
- He resides in a home (notwithstanding his younger age) because of aphasia after a stroke. The communication is difficult. His sister claims to be able to communicate
- The man his difficulties in walking because of a left hemiparesis.
- Formerly, he was a brewer and he had a great life.
- Unmarried
- Active smoker. He is only allowed a limited number of cigarettes by the attending nurses.
- Arterial hypertension
- No further cardiac history

Invalidated male of 66 years of age

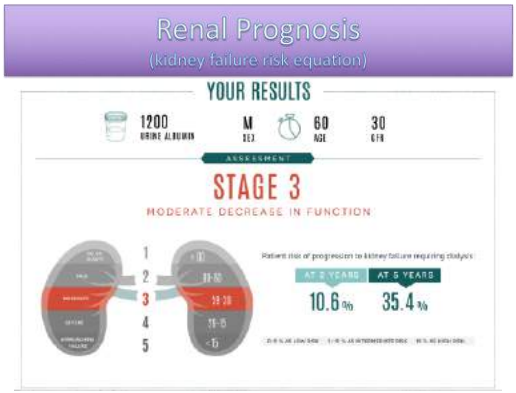
- The man sits in a wheelchair.
- Weight: 59 kg. Blood pressure: 157/56 mmHg
- Renal diagnosis: secondary focal glomerulosclerosis
  - Creatinine: 3.89 mg/dl, eGFR 15 ml/’/1.73 m2
  - Proteinuria: 2.6 g/g
  - Bilateral shrunken kidneys with a resistive index of 0.77
  - Week peripheral pulsations, thin sclerotic skin, absence of hair growing lower than the knee.
- He attends an dialysis information session and makes clear that he still wants to live.
- We offer: assisted home peritoneal dialysis

Steps in the decision process

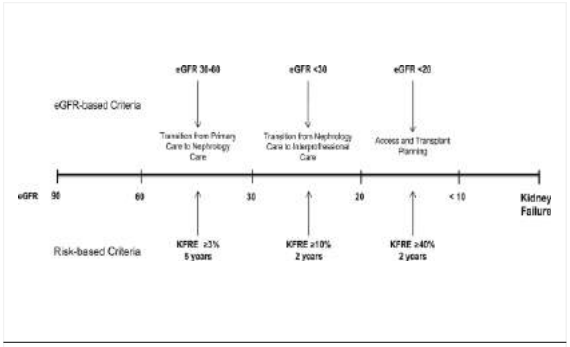
1 Predicting and depicting life expectancy
   1 Renal life expectancy
   2 Vital life expectancy
2 Evaluating the possible strategies
3 Probing the preferences of the patient

Shared Decision Making

Tamura, M. K., Tan, J. C. & O'Hare, A. M. Optimizing renal replacement therapy in older adults: a framework for making individualized decisions. Kidney International 82, 261–269 (2011).

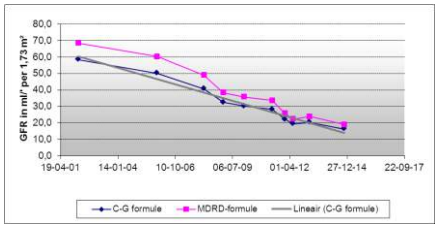


Tangri, N. A Predictive Model for Progression of Chronic Kidney Disease to Kidney Failure. JAMA 305, 1553 (2011).



From: Pro: Risk scores for chronic kidney disease progression are robust, powerful and ready for implementation
Nephrol Dial Transplant. 2017;32(5):748-751. doi:10.1093/ndt/gfx067

Renal prognosis



5-year Vital Prognosis of elderly CKD patients

Point Total	Estimate of Risk (%)	Cardiovascular Health Study		Health, Aging, and Body Composition Study	
		N (%)	No. of Deaths (%)	*N* (%)	No. of Deaths (%)
0	3.87	2 (0.2)	0 (0)	26 (3.3)	1 (3.8)
1	5.85	53 (2.8)	2 (8.7)	91 (11.5)	7 (7.7)
2	8.82	67 (8.1)	8 (11.9)	106 (13.4)	11 (10.4)
3	13.26	127 (15.2)	20 (13.7)	150 (19.0)	12 (8.0)
4	19.42	146 (17.6)	30 (20.5)	138 (17.5)	25 (18.1)
5	28.13	138 (16.7)	42 (34.1)	120 (15.2)	17 (13.2)
6	39.66	105 (12.7)	42 (40.0)	76 (9.6)	22 (28.9)
7	53.82	67 (10.5)	43 (49.4)	29 (3.7)	9 (31.0)
8	69.23	45 (5.6)	23 (50.0)	24 (3.0)	11 (45.8)
9	83.80	39 (4.7)	29 (74.4)	14 (1.8)	6 (42.9)
≥10	93.70	48 (5.8)	39 (81.3)	6 (0.7)	4 (80.0)

Nisha Bansal et al. CJASN 2015;10:363-371

CJASN

Vital Prognosis

Prognosis is dependent on:

- Nephrologist response to the Surprise Question
- Age
- Co-morbidity
- Functional status
- Nutritional status

Schell, J. O., Da Silva-Gane, M. & Germain, M. J. Recent insights into life expectancy with and without dialysis. Current Opinion in Nephrology and Hypertension 22, 185–192 (2013).

Prognostic Tools

Geriatrics

- Chronological age
- Karnofsky score
- Activities of daily living (ADLs)
- Instrumental activities of daily living (iADLs)
- Geriatric self-health questionnaire
  - Vulnerable Elders Survey (VES-13) •
- Geriatric syndromes screening walking speed, chair rise
  frailty testing , cognitive testing
  falls assessment
  depression screening
  nutrition assessment

Nephrology

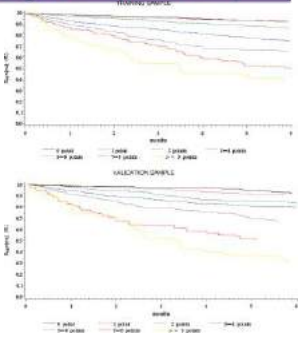
- (all patients) Surprise Question
- (considering witholding dialysis) Couchoud score
- (considering stopping dialysis) modified Charlson Co-morbidity score
- (considering stopping dialysis) Cohen score: hemodialysis mortality predictor

Swidler, M. A. Geriatric Renal Palliative Care. The Journals of Gerontology Series A: Biological Sciences and Medical Sciences 67, 1400–1409 (2012).

Couchoud Score 2009
(incident dialysis, aged > 75 y, 6 months)

Risk Factors

Total dependency on transfers	3
BMI < 18.5 kg/m²	2
Peripheral vascular disease (G3 of 4)	2
Congestive Heart Failure (G3 of 4)	2
Severe behavioural disorder	2
Unplanned dialysis	2
Active malignancy	1
Diabetes mellitus	1
Dysrhythmia	1



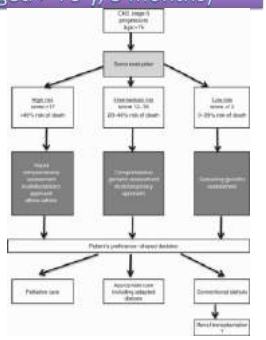
NDT Nephrology Dialysis Transplantation

Couchoud C et al. Nephrol. Dial. Transplant. 2009

Couchoud Score
(incident dialysis, aged > 75 y, 3 months)

Risk Factors

Male versus female	1
Aged 75- 85	0
Aged 85- 90	2
Aged > 90	3
Congestive Heart Failure (1 and 2)	2
Congestive Heart Failure (3 and 4)	4
Peripheral vascular disease 3 and 4	1
Dysrhythmia	1
Active malignancy	1
Severe behavioural disorder	2
Need assistance for transfer	4
Total dependency on transfer	9
Albuminemia > 35 g/l	0
Albuminemia 30- 35 g/l	2
Albuminemia 25- 30 g/l	3
Albuminemia < 25 g/l	5



Couchoud C et al. Kidney Int. 2015

Nederlandstalige Belgische Vereniging voor Nefrologie

- Dataset 2001-2003
- Baseline information at dialysis initiation included
  - age, gender,
  - eGFR based on creatinine and the MDRD formula
  - body mass index (BMI)
  - serum albumin the month preceding dialysis start
  - diabetes (type 1 or 2)
  - congestive heart failure (New York Heart Association stages I to IV), ischaemic heart disease (including history of myocardial infarction, coronary vascular disease, coronary artery bypass surgery, angioplasty or abnormal angiography)
  - peripheral vascular disease (Leriche classification stages I to IV)
  - cerebrovascular disease
  - arrhythmia
  - chronic obstructive pulmonary disease (COPD)
  - malignancy, liver cirrhosis,
  - mental disorders (defined to include dementia and psychosis)
  - initial dialysis modality
  - late referral (defined as starting dialysis less than 3 months after first contact with the nephrology department .

Nederlandstalige Belgische Vereniging voor Nefrologie

- During the observation period, 3472 patients started renal replacement therapy.

- For 793 patients (22.8%) information on one parameter of the REIN score was missing, making aREIN score calculation impossible, leaving 2679 patients available for analysis. There was no difference in gender or age between those with versus without missing data.

- More than half (56.4%) and almost three quarters (70.3%) of those older than 85 and 90 years of age respectively at start of dialysis had an aREIN stage of 3 or 4.

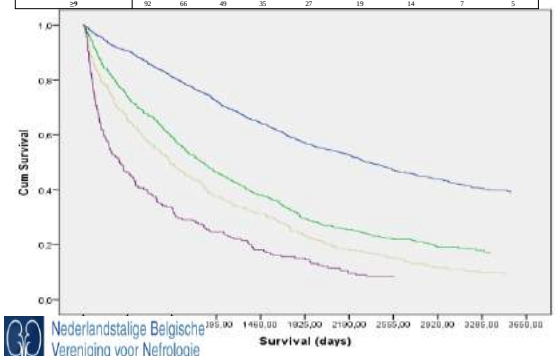
- We registered 276 (8.6%), 453 (14.1%) and 681 (19.6%) deaths at 3, 6 and 12 months respectively.
- Patients who died during the first 3 months were
  - older (74.3 ±9.9 vs 67.0±14.5 years, p<0.001),
  - had a higher aREIN score at start (6.4±2.7 vs 3.9 ±2.7, p<0.001)
  - a lower serum creatinine (6.1±3.8 vs 6.7±3.1mg/dl, p<0.01)
  - a lower body weight (69.4±15.5 vs 71.7±15.7kg, p=0.03)

Nederlandstalige Belgische Vereniging voor Nefrologie

Risk factors	Points
Gender	
Male	1
Female	0
Age (years)	
[75-80[	0
[80-85[	0
[85-90[	2
>=90	3
Congestive heart failure	
No	0
Stage I-II	2
Stage III-IV	4
Peripheral vascular disease	
No or stage I-II	0
Stage III-IV	1
Arrhythmia	
No	0
Yes	1
Cancer	
No	0
Yes	2
Severe behavioural disorder	
No	0
Yes	2
Serum Albumin (g/l)	
<25	5
[25-30[	3
[30-35[	2

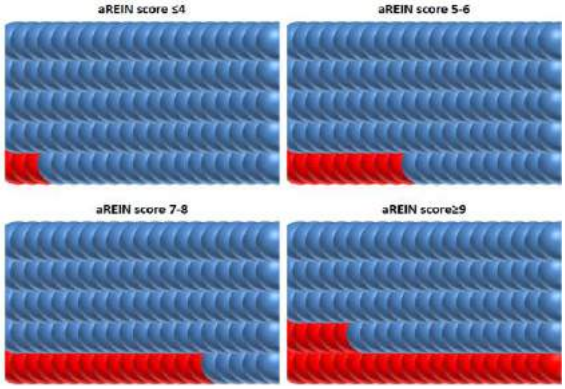
risk stratification for survival

aREINscore	N								
≤4	1381	1236	1102	979	865	805	720	454	229
5-6	458	367	287	235	183	158	134	81	40
7-8	222	166	127	105	78	61	50	24	14
≥9	92	66	49	35	27	19	14	7	5

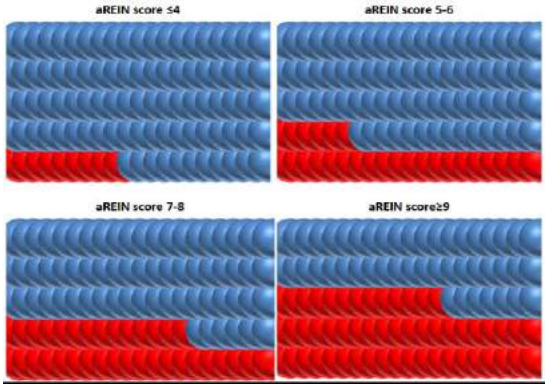


Nederlandstalige Belgische Vereniging voor Nefrologie

3 month survival risk stratification

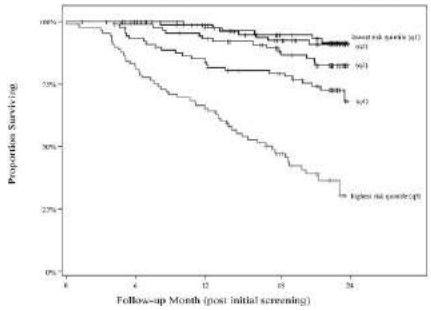


12 month survival risk stratification

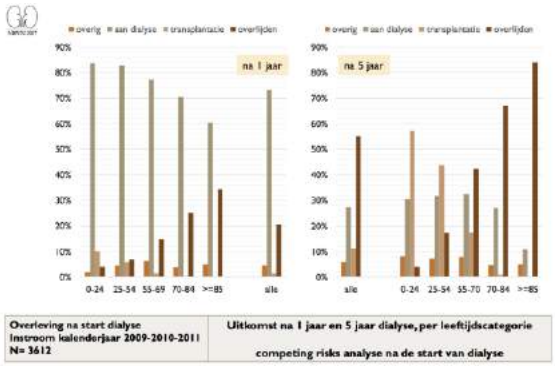


Cohen score for dialysis mortality

Risk Factors
Surprise question
Albumin
Age
Dementia
Peripheral vascular

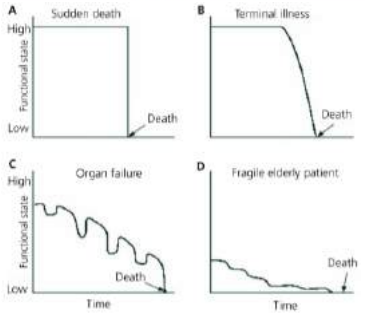


Cohen, L. M., Ruthazer, R., Moss, A. H. & Germain, M. J. Predicting six-month mortality for patients who are on maintenance hemodialysis. Clinical Journal of the American Society of Nephrology 5, 72–79 (2010).



Overleving na start dialyse Instroom kalenderjaar 2009-2010-2011 N= 3612	Uitkomst na 1 jaar en 5 jaar dialyse, per leeftijdscategorie competing risks analyse na de start van dialyse

Different trajectories of chronic illness



Lunney

Choosing the conservative approach

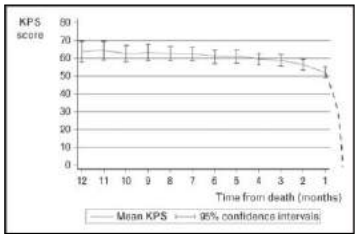
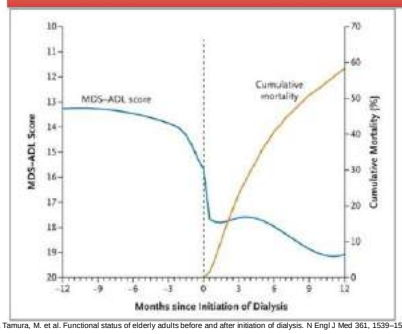


FIGURE 1 . Functional trajectory in the last year of life in stage 5 patients managed conservatively without dialysis. This trajectory contrasts with the previously described trajectory of chronic organ failure characterized by progressive subtle declines and partial recovery. KPS, Karnofsky Performance Scale. Data from [7][black small square][black small square][].

Recent insights into life expectancy with and without dialysis.
Schell, Jane; Da Silva-Gane, Maria; Germain, Michael

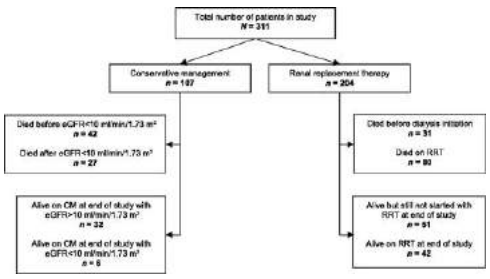
Current Opinion in Nephrology & Hypertension. 22(2):185-192, March 2013.
DOI: 10.1097/MNH.0b013e32835ddb69

Choosing dialysis



Kurella Tamura, M. et al. Functional status of elderly adults before and after initiation of dialysis. N Engl J Med 361, 1539–1547 (2009).

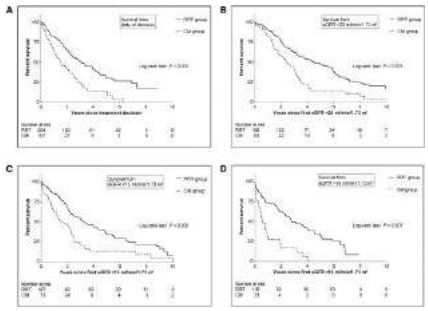
Flowchart of patients and outcomes.



Wouter R. Verberne et al. CJASN doi:10.2215/CJN.07510715

CJASN

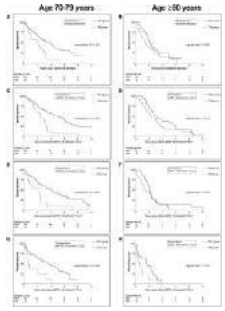
Kaplan–Meier survival curves comparing patients ages ≥70 years old treated with conservative management (CM) with patients on RRT using different starting points in survival calculation.



Wouter R. Verberne et al. CJASN doi:10.2215/CJN.07510715

CJASN

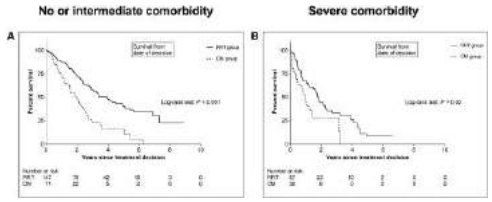
Kaplan–Meier survival curves comparing both treatment groups with stratification of age using different starting points in survival calculation.



Wouter R. Verberne et al. CJASN doi:10.2215/CJN.07510715

CJASN

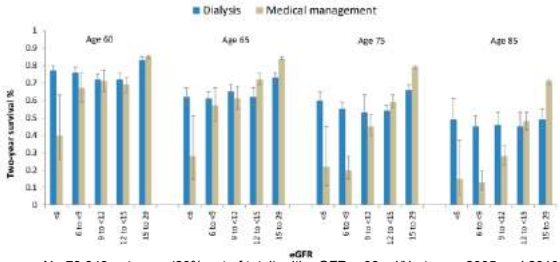
Kaplan–Meier survival curves for both treatment groups ages ≥70 years old with stratification of comorbidity.



Wouter R. Verberne et al. CJASN doi:10.2215/CJN.07510715

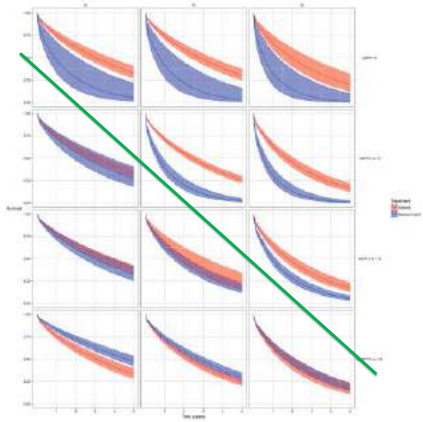
CJASN

Dialysis versus conservative care



N= 73,349 veterans (20% out of total) with eGFR < 30 ml/' between 2005 and 2010

Kurella Tamura, M. et al. Dialysis versus Medical Management at Different Ages and Levels of Kidney Function in Veterans with Advanced CKD. J Am Soc Nephrol (2018)



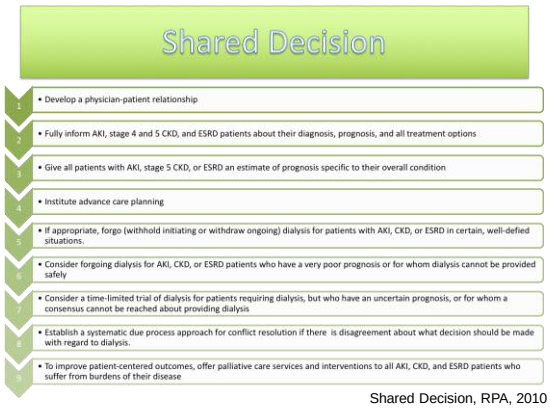
Dialysis versus conservative care

Table 3. Estimated survival for patients who initiate dialysis compared with patients who receive medical management, by age group and eGFR

Age, yr	eGFR (ml/min per 1.73 m²)	Median Survival in Months (25th, 75th percentile)		Difference in Median Survival (mo)
		Dialysis	Medical Management	
60	<6	71 (28, NE)	17 (5, 39)	54
	6–<9	67 (25, NE)	45 (16, 90)	22
	9–<12	54 (20, NE)	52 (19, NE)	2
65	<6	37 (13, 75)	11 (3, 26)	26
	6–<9	36 (12, 74)	30 (10, 64)	6
	9–<12	42 (15, 85)	36 (12, 76)	6
75	<6	34 (11, 70)	9 (3, 22)	25
	6–<9	29 (10, 62)	8 (2, 20)	21
	9–<12	26 (9, 57)	21 (7, 46)	5
85	<6	24 (8, 52)	7 (2, 16)	17
	6–<9	21 (7, 46)	6 (2, 15)	15
	9–<12	21 (7, 47)	11 (3, 27)	10

NE: values correspond to times which extend beyond the maximum follow-up time. eGFR values >12 ml/min per 1.73 m² are not presented because they were not associated with higher dialysis survival in any age group.

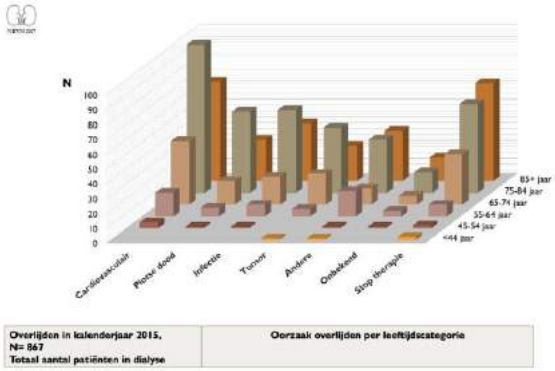
Kurella Tamura, M. et al. Dialysis versus Medical Management at Different Ages and Levels of Kidney Function in Veterans with Advanced CKD. J Am Soc Nephrol (2018)



Shared Decision, RPA, 2010

2 To escape

3 To withdraw



Man, 89 years old

- 11/2003: diagnosis prostate cancer.
  R/Lucrin, later Casodex,
  Even later Docetaxel. He develops chronic kidney disease.
  Finally Zytiga (anti-androgen), reduced dose.
- Another nephrological equip denies access to dialysis.
- Second opinion by nephrologists in Jessa Hospital in 2012. Progressive CKD attributed to toxic interstitial kidney disease
- He attends a dialysis information session (accompanied by his son and spouse). He chooses to start haemodialysis.
- 16/11/2012: initiation of haemodialysis

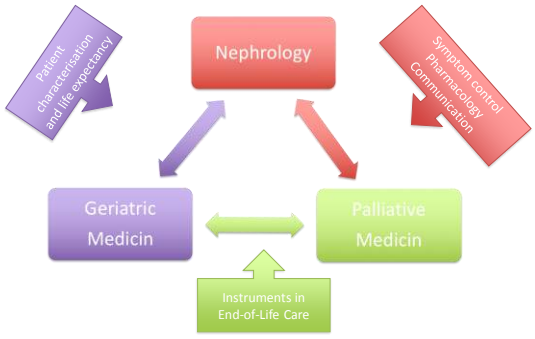
Man, 89 years old

- 16/11/2012: chronic haemodialysis is started with a tunneled catheter. Frequency: twice weekly thanks to a preserved diuresis.
- 04/2014: Zytiga-related hepatotoxicity
- 05/2015: fracture of the pubis
- 12/2016: probably malignant lesion of the left kidney with a local haematoma
- 12/2016: enterocolitis
- 01/2017: conservation with the medical team. ‘He is so tired of it all’. Especially tired from to trip to and from the hospital.
- 01/2017: haemodialysis treatment is stopped
- 05/2017: admission with acute pulmonary edema
- 11/01/2018: dies at home

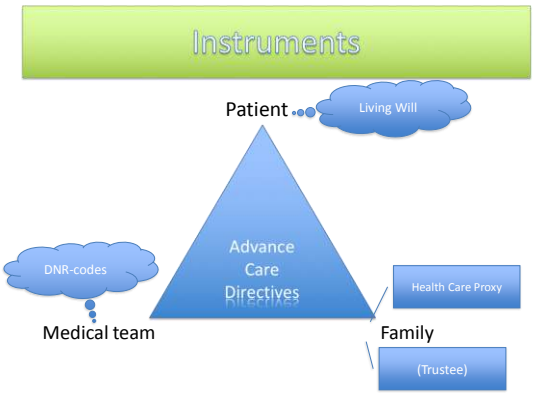
End-of-Life care

- Clinical situations
  - Withdrawing dialysis
  - Palliative Care
  - Euthanasia
- Instruments in end-of-life care
  - From patients' perspective: living will
  - From doctors' perspective: DNR-codes, decisions limiting therapeutic efforts when futility is obvious
  - Combined: advance directives

Geriatric Renal Palliative Care



Swidler, M. A. Geriatric Renal Palliative Care. The Journals of Gerontology Series A: Biological Sciences and Medical Sciences 67, 1400–1409 (2012).




THANKS
FOR YOUR
COOPERATION
AND
ATTENTION