Geriatrische Aspekte beim älteren kardiologischen Patienten

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Themen

1. Einige Fakten zur Evidenz
2. Einige Überlegungen zu Behandlungsentscheiden
3. Einige Ideen für eine optimierte Gesamtbetreuung

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HYVET: RCT, 80+, Blutdruckbehandlung

Table 2. Main Fatal and Nonfatal End Points in the Intention-to-Treat Population.

End Point	Rate per 1000 Patient-Yr (No. of Events)		Unadjusted Hazard Ratio (95% CI)	P Value
	Active	Placebo		
	no. (%)			
Stroke				
Fatal or nonfatal	12.4 (51)	17.7 (69)	0.70 (0.49–1.01)	0.06
Death from stroke	6.5 (27)	10.7 (42)	0.61 (0.38–0.99)	0.046
Death				
From any cause	47.2 (196)	59.6 (235)	0.79 (0.65–0.95)	0.02
From noncardiovascular or unknown causes	23.4 (97)	28.9 (114)	0.81 (0.62–1.06)	0.12
From cardiovascular cause	23.9 (99)	30.7 (121)	0.77 (0.60–1.01)	0.06
From cardiac cause*	6.0 (25)	8.4 (33)	0.71 (0.42–1.19)	0.19
From heart failure	1.5 (6)	3.0 (12)	0.48 (0.18–1.28)	0.14
Fatal or nonfatal				
Any myocardial infarction	2.2 (9)	3.1 (12)	0.72 (0.30–1.70)	0.45
Any heart failure	5.3 (22)	14.8 (57)	0.36 (0.22–0.58)	<0.001
Any cardiovascular event†	33.7 (138)	50.6 (193)	0.66 (0.53–0.82)	<0.001

* Death from cardiac causes was defined as fatal myocardial infarction, fatal heart failure, and sudden death.
† Any cardiovascular event was defined as death from cardiovascular causes or stroke, myocardial infarction, or heart failure.

Beckett **NS** et al. N Engl J Med 2008.

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After Eighty Study: RCT, 80+, NSTEMI/UA

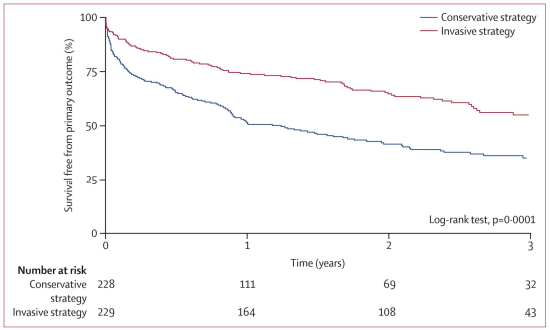

Figure 2: **Kaplan-Meier curves of survival free from composite outcome**
The primary outcome was a composite of myocardial infarction, need for urgent revascularisation, stroke, and death.

Tegn N et al. Lancet 2016.

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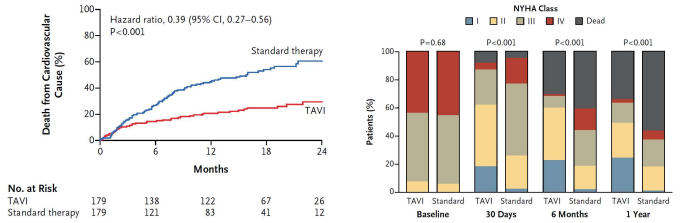
PARTNER-Trial: RCT, TAVI vs. Diuretikum



Leon MB et al. N Engl J Med 2010.

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Evidenz aus randomisierten Studien

Gute Evidenz für viele Interventionen im fortgeschrittenen Alter vorhanden, aber…

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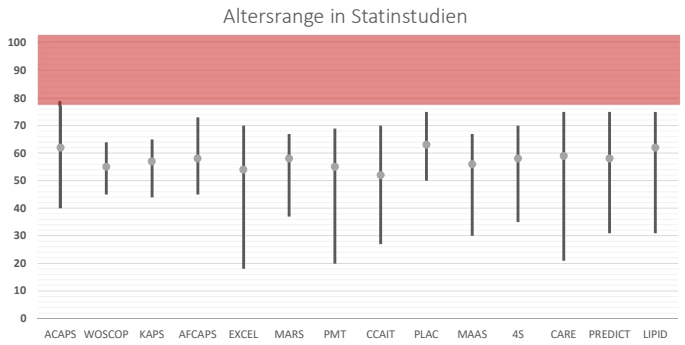
Altersrange in Studien



Adaptiert nach Bandyopadhyay S et al. QJM 2001.

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Ausschlusskriterien in Studien (HYVET)

Patients had to be 80 years of age or older (confirmed by national documentation) with persistent hypertension (defined as a sustained systolic blood pressure of 160 mm Hg). Exclusion criteria included a contraindication to use of the trial medications, accelerated hypertension, secondary hypertension, hemorrhagic stroke in the previous 6 months, heart failure requiring treatment with antihypertensive medication, a serum creatinine level greater than 150 μmol per liter (1.7 mg per deciliter), a serum potassium level of less than 3.5 mmol per liter or more than 5.5 mmol per liter, gout, a diagnosis of clinical dementia, and a requirement of nursing care.

Beckett NS et al. N Engl J Med 2008.

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Ausschlusskriterien in Studien (SPRINT)

1. An indication for a specific BP lowering medication (e.g., beta-blocker following acute myocardial infarction) that the person is not taking and the person has not been documented to be intolerant of the medication class. (If a screenee has a non-hypertension indication for a BP-lowering medication (e.g., beta-blocker post-MI, renin angiotensin system (RAS) blocker for CVD prevention, or alpha blocker for benign prostatic hypertrophy (BPH)), the screenee should be on the appropriate dose of such medication before assessing whether he/she meets the SPRINT inclusion criteria. If the investigator believes that a potential participant has such an indication but is not receiving appropriate treatment, he/she should encourage the potential participant's primary care provider to consider placing the patient on the appropriate therapy prior to proceeding with the screening process.)
2. Known secondary cause of hypertension that causes concern regarding safety of the protocol.
3. One minute standing SBP < 110 mm Hg. Not applicable if unable to stand due to wheelchair use.
4. Proteinuria in the following ranges (based on a measurement within the past 6 months)
   (a) 24 hour urinary protein excretion ≥1 g/day, or
   (b) If measurement (a) is not available, then 24 hour urinary albumin excretion ≥ 600 mg/day, or
   (c) If measurements (a) or (b) are not available, then spot urine protein/creatinine ratio ≥ 1 g/g creatinine, or
   (d) If measurements (a), (b), or (c) are not available, then spot urine albumin/creatinine ratio ≥ 600 mg/g creatinine, or
   (e) If measurements (a), (b), (c), or (d) are not available, then urine dipstick ≥ 2+ protein
5. Arm circumference too large or small to allow accurate blood pressure measurement with available devices
6. Diabetes mellitus. Participants taking medications for diabetes at any time in the last 12 months are excluded. Participants are also excluded if there is documentation of: FPG at or above 126 mg/dL, A1C ≥6.5 percent, a two-hour value in an OGTT (2-h PG) at or above 200 mg/dL or a random plasma glucose concentration ≥200 mg/dL. The diagnosis of diabetes must be confirmed on a subsequent day by repeat measurement, repeating the same test for confirmation. However, if two different tests (eg, FPG and A1C) are available and are concordant for the diagnosis of diabetes, additional testing is not needed. If two different tests are discordant, the test that is diagnostic of diabetes should be repeated to confirm the diagnosis.
7. History of stroke (not CE or stenting)
8. Diagnosis of polycystic kidney disease
9. Glomerulonephritis treated with or likely to be treated with immunosuppressive therapy
10. eGFR < 20 ml/min/1.73m² or end-stage renal disease (ESRD)
11. Cardiovascular event or procedure (as defined above as clinical CVD for study entry) or hospitalization for unstable angina within last 3 months
12. Symptomatic heart failure within the past 6 months or left ventricular ejection fraction (by any method) < 35%
13. A medical condition likely to limit survival to less than 3 years, or a cancer diagnosed and treated within the past two years that, in the judgment of clinical study staff, would compromise a participant's ability to comply with the protocol and complete the trial. Exceptions to the exclusion for diagnosed cancer would include, for example, non-melanoma skin cancer, early-stage prostate cancer, localized breast cancer.
14. Any factors judged by the clinic team to be likely to limit adherence to interventions. For example
   (a) Active alcohol or substance abuse within the last 12 months
   (b) Plans to move outside the clinic catchment area in the next 2 years without the ability to transfer to another SPRINT site, or plans to be out of the study area for more than 3 months in the year following enrollment.
   (c) Significant history of poor compliance with medications or attendance at clinic visits
   (d) Significant concerns about participation in the study from spouse, significant other, or family members
   (e) Lack of support from primary health care provider
   (f) Residence too far from the study clinic site such that transportation is a barrier including persons who require transportation assistance provided by the SPRINT clinic funds for screening or randomization visits
   (g) Residence in a nursing home. Persons residing in an assisted living or retirement community are eligible if they meet the other criteria.
   (h) Clinical diagnosis of dementia, treatment with medications for dementia, or in the judgment of the clinician cognitively unable to follow the protocol
   (i) Other medical, psychiatric, or behavioral factors that in the judgment of the Principal Investigator may interfere with study participation or the ability to follow the intervention protocol
15. Failure to obtain informed consent from participant
16. Currently participating in another clinical trial (intervention study). Note: Patient must wait until the completion of his/her activities or the completion of the other trial before being screened for SPRINT.
17. Living in the same household as an already randomized SPRINT participant
18. Any organ transplant
19. Unintentional weight loss > 10% in last 6 months
20. Pregnancy, currently trying to become pregnant, or of child-bearing potential and not using birth control

SPRINT Research Group. N Engl J Med 2015.

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Die Folgen, wenn man nicht genau liest

10.3.1. Older Persons

Recommendations for Treatment of Hypertension in Older Persons References that support recommendations are summarized in Online Data Supplement 54.		
COR	**LOE**	**Recommendations**
I	**A**	**1. Treatment of hypertension with a SBP treatment goal of less than 130 mm Hg is recommended for noninstitutionalized ambulatory community-dwelling adults (≥65 years of age) with an average SBP of 130 mm Hg or higher (1).**
IIa	**C-EO**	**2. For older adults (≥65 years of age) with hypertension and a high burden of comorbidity and limited life expectancy, clinical judgment, patient preference, and a team-based approach to assess risk/benefit is reasonable for decisions regarding intensity of BP lowering and choice of antihypertensive drugs.**

Whelton PK et al. Hypertension 2017.

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Fazit

Evidenz immer nur für bestimmte ältere Personen vorhanden (i.d.R. die Fitten)

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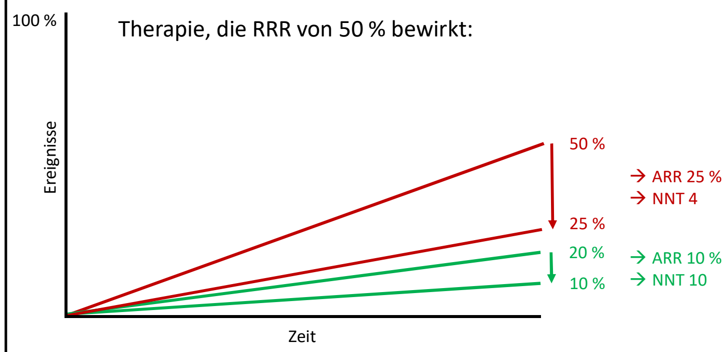
Nichtsdestotrotz: viele Therapien besser effektiv



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Nichtsdestotrotz: viele Therapien besser effektiv

	Studie	Alter	Blutdruck-Senkung	NNT für Endpunkt kardiovaskuläre Mortalität sowie nicht-fatale Myokardinfarkte und Schlaganfälle (auf 5 Jahre berechnet)
Jüngere				
	VA II	51	27/17	8
	USPH	44	18/10	35
	ANBP 1	50	0/5	145
	MRC I	52	14/6	138
	Total	**49**	**15/10**	**82**
Ältere				
	SHEP	72	15/4	23
	STOP	76	19/8	10
	MRC II	70	15/7	36
	Syst-Eur	70	10/5	43
	Total	**72**	**15/6**	**28**

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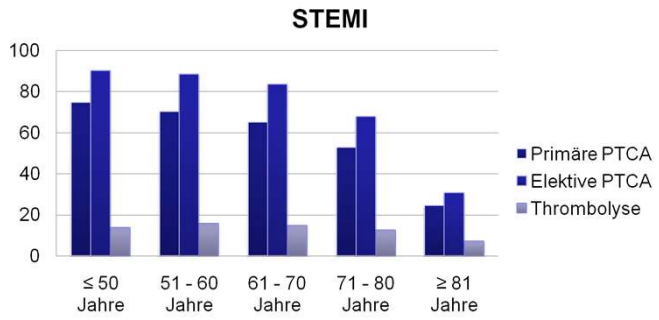
Trotz Evidenz Diskriminierung aufgrund Alter



Schoenenberger AW et al. J Am Geriatr Soc 2008.

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Trotz Evidenz Diskriminierung aufgrund Alter

Interventional Therapy	Patients, n*	OR† (95% Confidence Interval)	*P*-Value	Adjusted‡	
		Unadjusted			
Primary PCI§					
Patients with STEMI	6,302	0.955 (0.951–0.959)	<.001	0.968 (0.964–0.973)	<.001
Patients with NSTEMI or UA	4,778	0.951 (0.946–0.956)	<.001	0.964 (0.959–0.969)	<.001
Any PCI§					
Patients with STEMI	6,332	0.924 (0.919–0.930)	<.001	0.938 (0.932–0.944)	<.001
Patients with NSTEMI or UA	4,812	0.930 (0.925–0.935)	<.001	0.943 (0.937–0.949)	<.001
Thrombolysis, patients with STEMI§	6,654	0.989 (0.983–0.994)	<.001	0.992 (0.986–0.999)	.02
Primary PCI and thrombolysis combined, patients with STEMI§	6,288	0.935 (0.872–0.939)	<.001	0.955 (0.949–0.961)	<.001

Medical Therapy	Patients, n*	OR† (95% Confidence Interval) Unadjusted	*P*-Value	Adjusted‡	
Acetylsalicylic acid§	11,805	0.960 (0.956–0.968)	<.001	0.976 (0.969–0.980)	<.001
Clopidogrel§	11,759	0.965 (0.962–0.968)	<.001	0.975 (0.973–0.979)	<.001
Acetylsalicylic acid, clopidogrel, or both§	11,906	0.954 (0.947–0.961)	<.001	0.969 (0.961–0.976)	<.001
Heparin§	11,791	0.996 (0.996–0.997)	<.001	0.999 (0.994–1.003)	.63
Beta-blocker§	10,359	0.979 (0.976–0.983)	<.001	0.985 (0.981–0.989)	<.001

Schoenenberger AW et al. J Am Geriatr Soc 2008.

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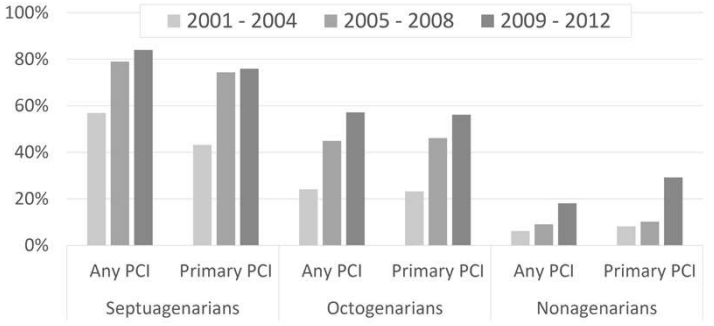
Die Zeit beweist die Diskriminierung



Schoenenberger AW et al. Eur Heart J 2016.

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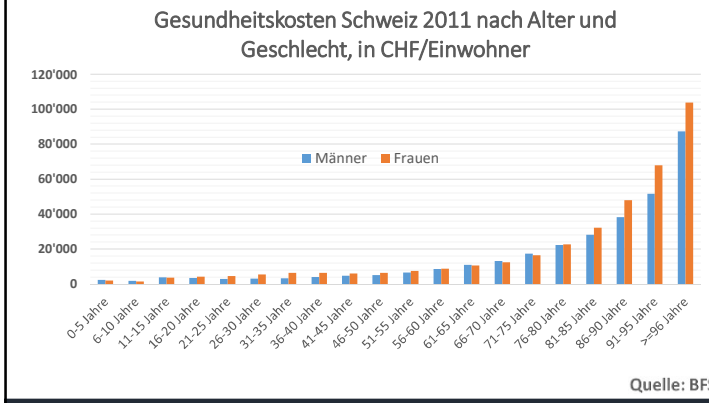
…aber auch das ist eine Wahrheit



Quelle: BFS.

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Was ist zu tun?

Die Lösung des Problems liegt in der Berücksichtigung der restlichen Lebenserwartung

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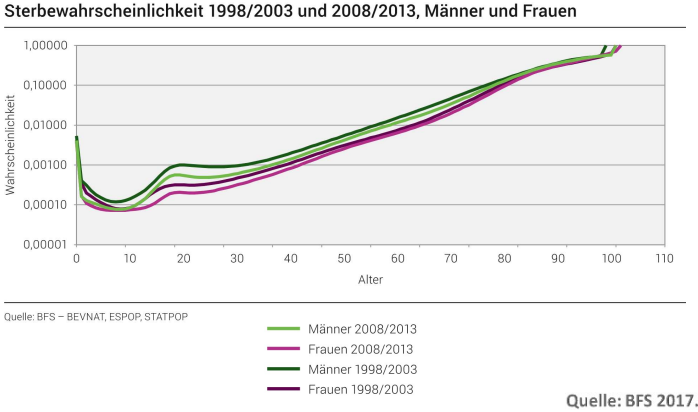
Warum spielt das eine Rolle?



Quelle: BFS 2017.

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Restliche Lebenserwartung

	1981	1991	2001	2011	2018
Bei der Geburt					
Männer	72.4	74.1	77.4	80.3	81.7
Frauen	79.2	81.2	83.1	84.7	85.4
Im Alter von 50 Jahren					
Männer	26.0	27.7	29.9	32.0	33.2
Frauen	31.3	33.1	34.5	35.9	36.4
Im Alter von 65 Jahren					
Männer	14.3	15.6	17.3	19.0	19.9
Frauen	18.2	19.8	21.1	22.2	22.7
Im Alter von 80 Jahren					
Männer	6.2	6.8	7.6	8.4	8.9
Frauen	7.6	8.7	9.4	10.1	10.5
Im Alter von 90 Jahren					
Männer	3.3	3.4	3.7	3.9	4.0
Frauen	3.8	4.3	4.4	4.6	4.7

Quelle: BFS 2018.

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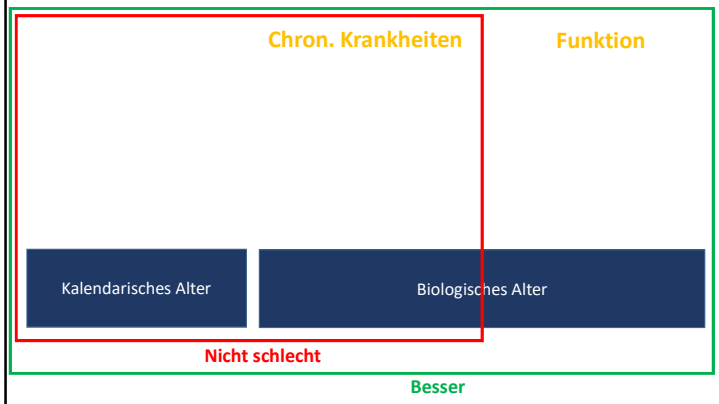
Wie restliche Lebenserwartung einschätzen?



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Darum: geriatrisches Assessment machen!

Kognition
Mobilität
Ernährung
Sehen / Hören
Emotion
ADLs

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Geriatrische Guidelines

CRIteria to assess appropriate Medication use among Elderly complex patients

Antihypertensiva

Recommendation 1: In patients with dementia or cognitive impairment or functional limitation, a tight blood pressure control (<140/90 mmHg) is not recommended.

Recommendation 2: In patients with dementia or cognitive impairment or functional limitation, use of more than three antihypertensive drugs should be avoided.

Recommendation 3: In patients with limited life expectancy (<2 years), a tight blood pressure control (<140/90 mmHg) is not recommended.

Recommendation 4: In case of falls associated with orthostatic hypotension (or symptomatic orthostatic hypotension), the number of antihypertensive drugs should be reduced and concomitant use of multiple antihypertensive agents should be avoided.

Statine

Recommendation 1: The use of statins for secondary prevention in older adults with limited life expectancy (<2 years) or advanced dementia is not recommended.

Orale Antikoagulation

Recommendation 1: In patients with non-valvular atrial fibrillation and limited life expectancy (<6 months), the use of oral anticoagulants should be avoided.

Onder G et al. Drugs Aging 2014.

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Umsetzung in Guidelines

Recommendations	Class [a]	Level [b]	Ref [c]
Treatment decisions in the elderly (>75 years) should be made in the context of estimated life expectancy, co-morbidities, quality of life, and patient wishes and preferences.	I	C	230

ESC Guideline ACS. Eur Heart J 2011.

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Geriatrisches Assessment

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Optimierte interdisziplinäre Gesamtbetreuung

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Schlüssel zum Erfolg

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Beispiel Delir: prädisponierende Faktoren

- Demographic characteristics
  - Age of 65 years or older
  - Male sex
- Cognitive status
  - Dementia
  - Cognitive impairment
- History of delirium
- Depression
- Functional status
  - Functional dependence
  - Immobility
- Low level of activity
- History of falls
- Sensory impairment
  - Visual impairment
  - Hearing impairment
- Decreased oral intake
  - Dehydration
  - Malnutrition
- Drugs
  - Treatment with multiple psychoactive drugs
  - Treatment with many drugs
  - Alcohol abuse
- Coexisting medical conditions
  - Severe illness

Inouye SK. N Engl J Med 2006.

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Beispiel Delir: Management

Behandlung auslösender Faktoren

Delirprävention (Primärprävention) ist die effektivste Strategie, um die Inzidenz und Komplikationsrate zu senken:

- Stress minimieren:
  - Sowenig Schläuche, wie möglich
  - Schmerzen behandeln
  - Seh- und Hörhilfen anbieten
  - Umgebung optimieren (z.B. Familienfotos)
  - Ruhige Sprache
- Flüssigkeitsbilanz monitorisieren, bei Durst Flüssigkeit anbieten
- Urinmenge kontrollieren
- Mangelernährung vermeiden
- Früh mobilisieren
- Alle unnötigen Medikamente stoppen

→ **Ca. 30 – 40% der Delirien können verhindert werden.**

Inouye SK. N Engl J Med 2006.

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Beispiel Urteilsfähigkeit

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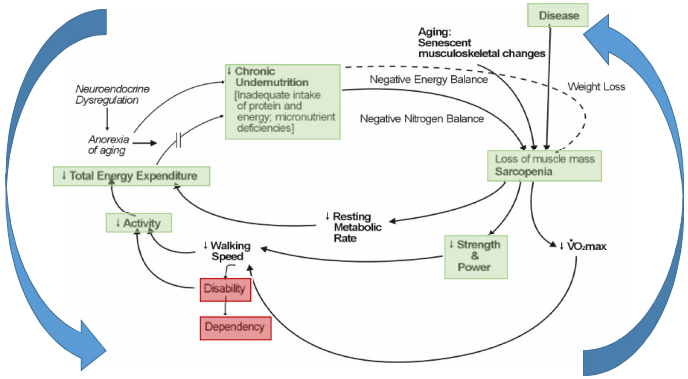
Beispiel Geriatrische Rehabilitation



Fried LP. J Gerontol 2001.

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Schlussfolgerungen

Gute Evidenz zur Wirksamkeit kardialer Therapien bei Patienten im fortgeschrittenen Alter vorhanden

Evidenz aber nur für gewisse ältere Patienten zutreffend

Entscheide auf die restliche Lebenserwartung abstellen

Zusätzlich zu den chron. Krankheiten hilft für die Einschätzung ein Geriatrisches Assessment (insb. der Kognition)

Eine interdisziplinäre Betreuung verbessert die Outcomes

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