Work as an academic cardiologist in a neurology department

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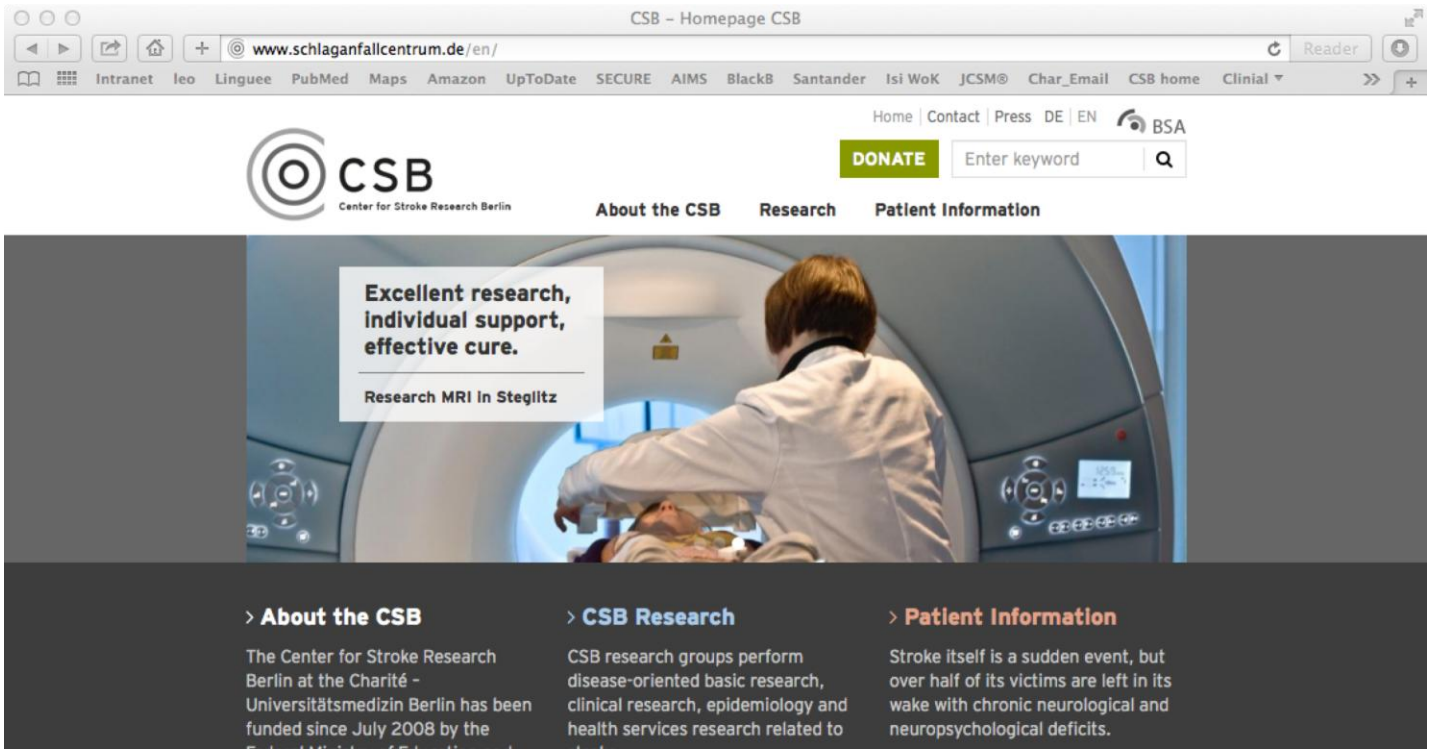
CSB
Centrum für Schlaganfallforschung



Clinical research

Basic research

Clinical care

Patient support

Education

2y Master course

European Heart Journal (2016) **0**, 1–14
doi:10.1093/eurheartj/ehw334

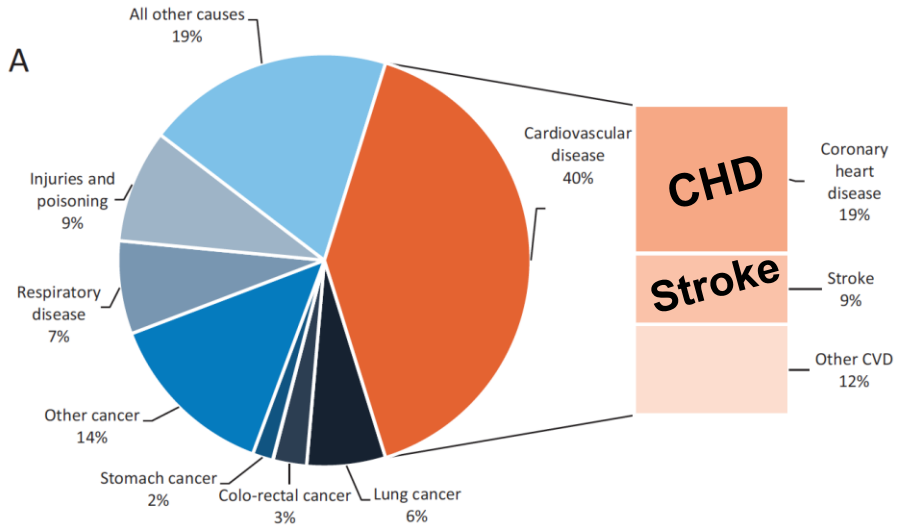
REVIEW

Cardiovascular disease in Europe: epidemiological update 2016

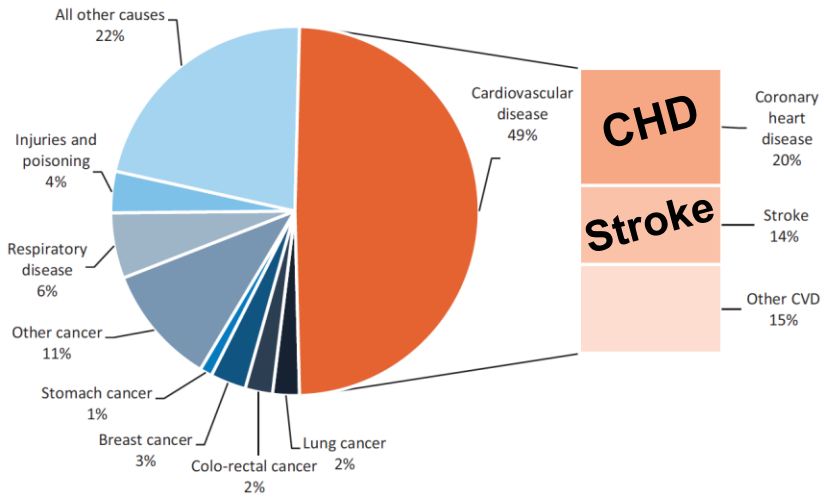
Townsend et al. Eur Heart J, August 2016

Reason of death in Europe

Men



Women

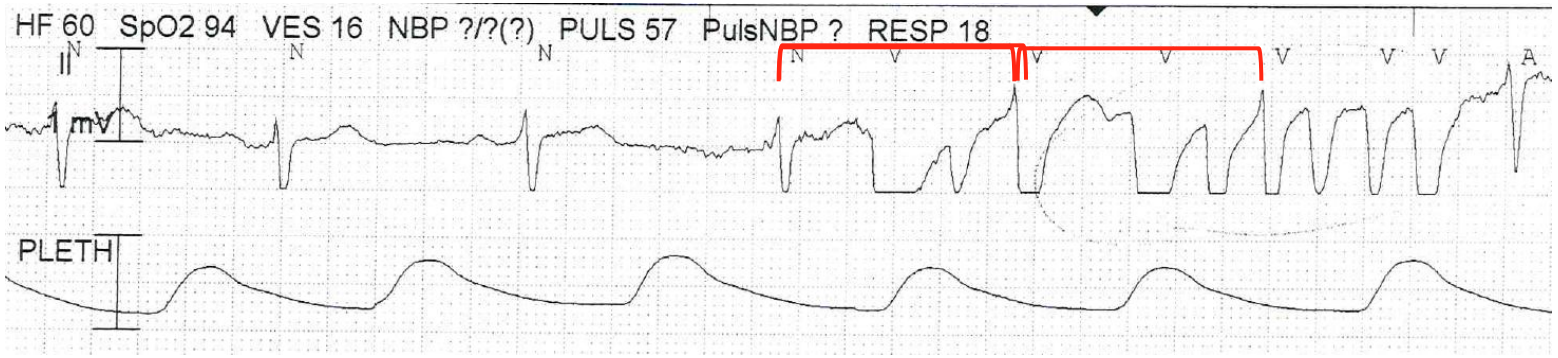


Stroke - The need for cardiologic input

Acute Stroke

Acute care	subacute	chronic care
A&E	**Stroke Unit / ICU**	**Rehab unit, Nursing home, Home**
Immediate Dx cerebral damage vital status differential Dx cause of stroke **Immediate Therapy** neurological Tx cardiac Tx	**Complications** Arrhythmias BP episodes Troponin ? CV comorbidities muscle wasting **Risk profile** AF, HTN, CAD, CHF Lipidaemia	**Long term complications** CV comorbidities Tx adjustment **Sec. Prevention** Risk factor monitoring continued therapy

The clinical input: ECG Monitoring



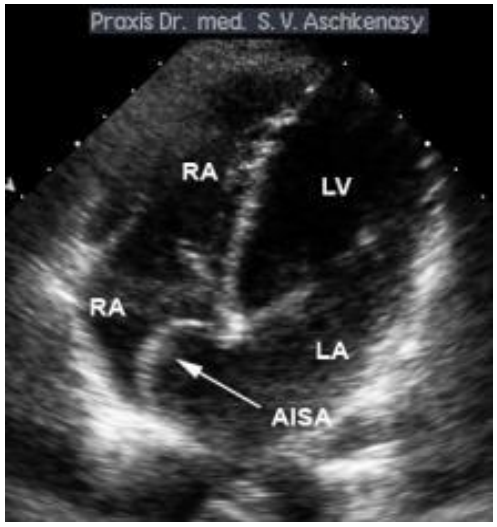
Echocardiography - which type for what ?

Trans- thoracic echo TTE

long distance
lower resolution

no definite exclusion of thrombus

- Size of LV, LA, wallthickness
- Left ventricle contractility
- Akinetic segment (apex)
- LV aneurysm
- Global valve function

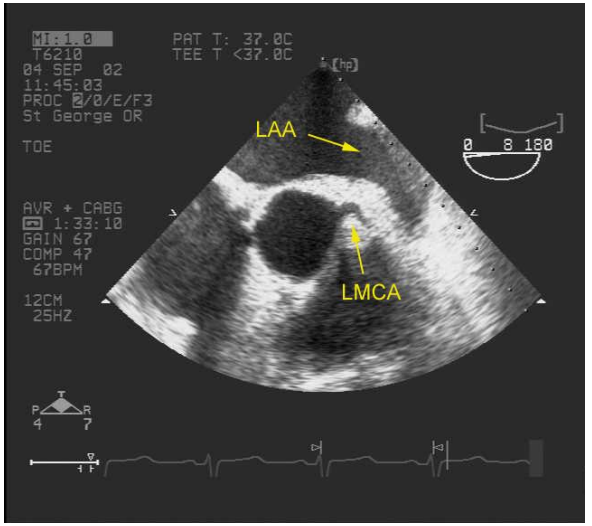


Trans- esophageal echo TEE

short distance
very high solution

definite exclusion of thrombus

- LA auricle
- patent voramen ovale
- detailed valve function



Cardiac input - Research interaction

Acute phase

Reducing brain injury

Preventing
acute complications

Chronic management

Rehabilitation

Secondary prevention

Limitations (timing, consenting)
Roadblock – „Neuroprotection“

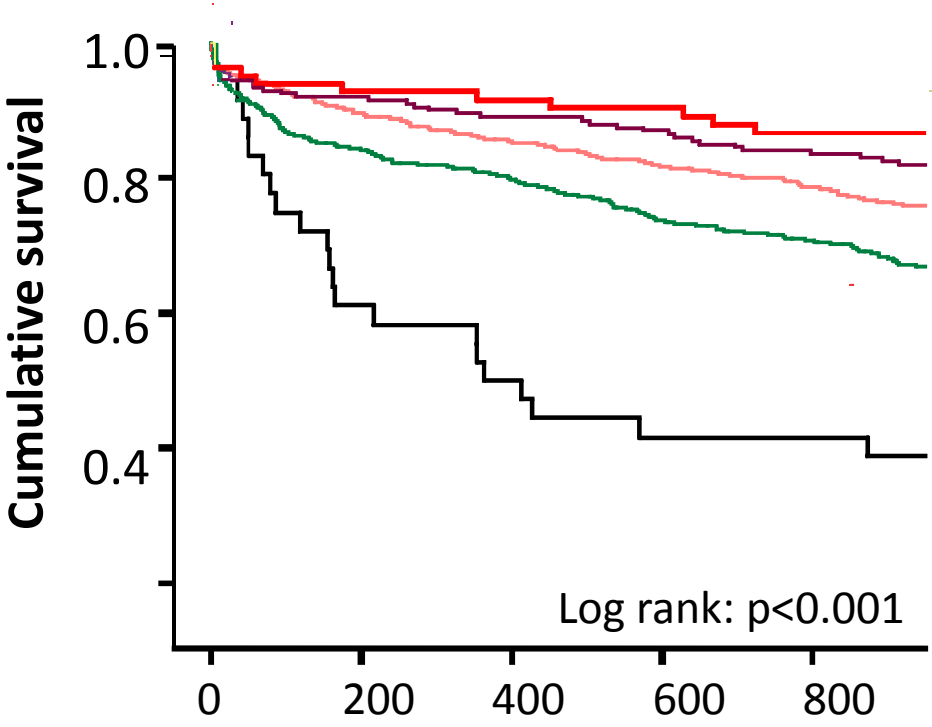
Undervalued
Little research ➔ (EAPC)

The research input: out of the (neuro-) box

➔ Adding interdisciplinary concepts in stroke studies

„Body weight is not considered relevant for outcome in stroke“

Body weight measurement in stroke studies: 25%

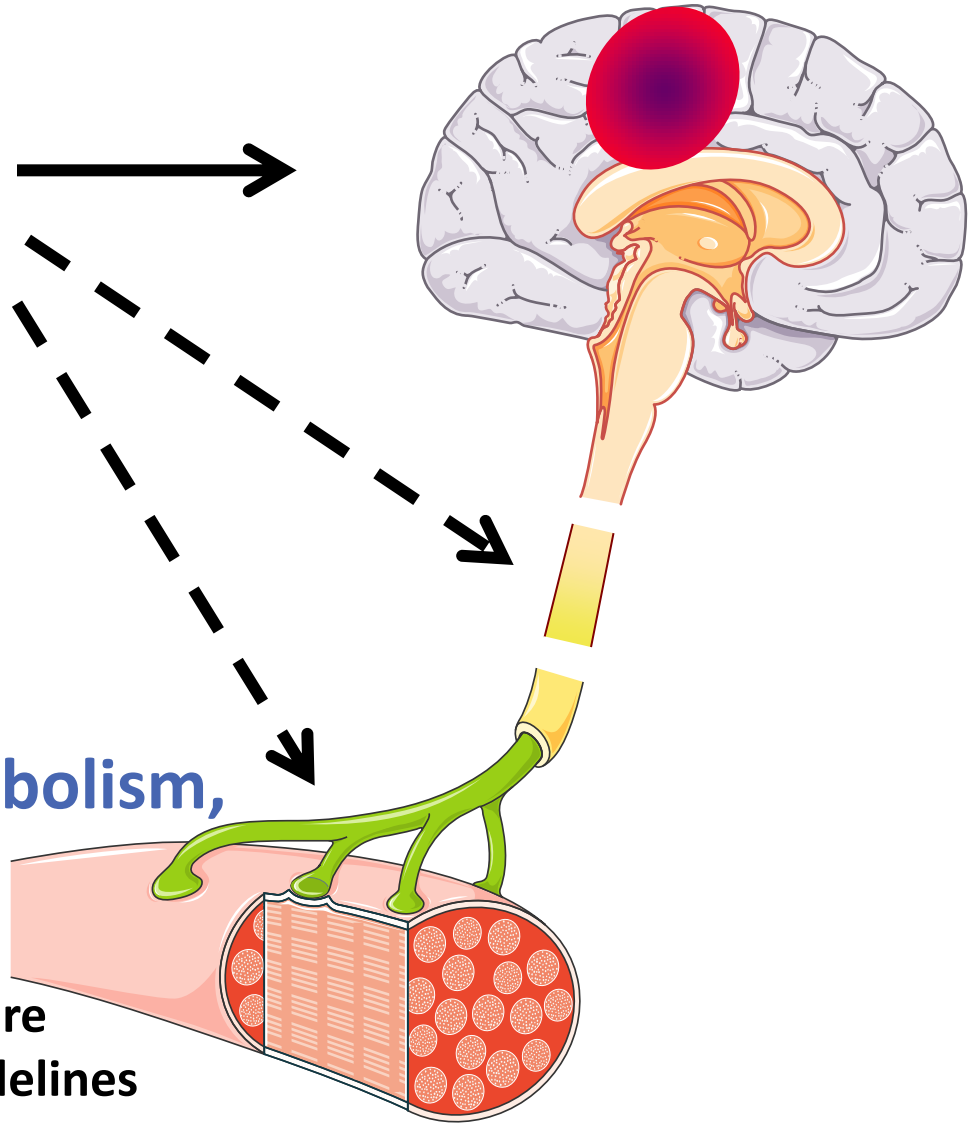


	OR	95%CI
very obese	0.31	0.16-0.59*
obese	0.46	0.31-0.68*
overweight	0.65	0.51-0.85*
normal BMI	1.0	reference
underweight	3.03	1.51-6.09*

Doehner et al EHJ ‘13

Interdisciplinary concepts for stroke research

Major focus



Not in the focus !?!

Muscle structure, metabolism, and function

- poorly investigated
- no target in clinical care
- not addressed in Guidelines

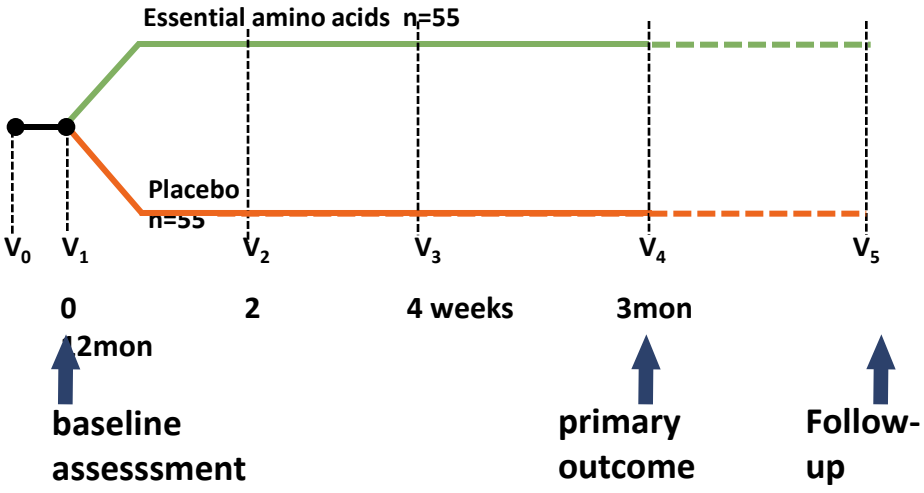
Proof of concept interventional trial

AMINOS

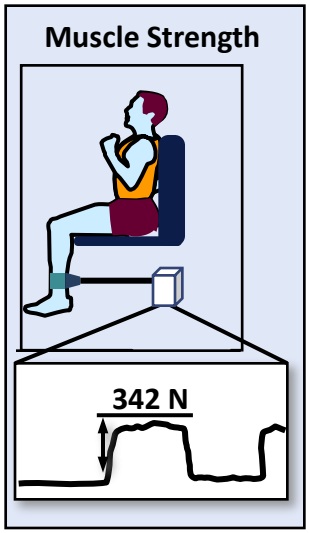
Effect of essential amino acids on muscle size and strength in patients with acute ischemic stroke during rehabilitation (AMINO-Stroke)

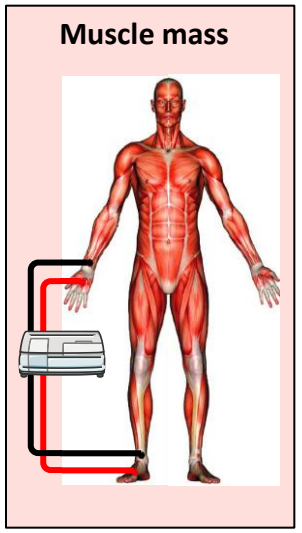
UTN: DRKS00005577

Hypothesis: Essential amino acids supplementation improves muscle strength and physical performance during rehabilitation after stroke.



muscle function **muscle mass**



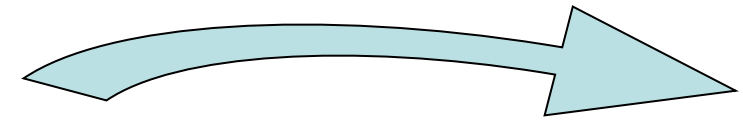


CV involvement in Stroke - the need for joined efforts

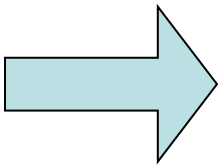
CV Risk profile

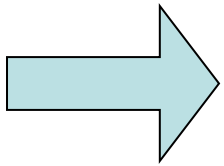
- **Atrial fibrillation**
- **Hypertension**
- Atherosklerosis
- Myocardial infarction
- Myocarditis
- Endocarditis
- LV Aneurysm
- Chronic heart failure
- Valvular disease
- Valve replacement

- Overt foramen ovale



Cerebro-vascular Stroke





Post Stroke CV Complication

- "All of the above" (secondary prevention)

- Cardiopulm. function
- Arrhythmias
- inadequate RR regulation
- Cardiac / vascular re-embolism
- Myocardial Infarction
- CHF exacerbation
- Thrombosis

Thank you

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