EESTI KARDIOLOOGIDE SELTS
ESTONIAN SOCIETY OF CARDIOLOGY

EAPC
European Association
of Preventive Cardiology

EESTI SPORDIMEDITSIINI FÖDERATSIOON
Estonian Sports Medicine Federation

KARDIOLOOGILINE TAASTUSRAVI

Eduard Tsvetkov

Taastus- ja spordiarst

EAPC Young Ambassador

medicum

TAASTUSRAVI AJAJOON

1772: case report by Heberden

1930: 6-week bed rest

1950: 3-5 min walking after 4 weeks

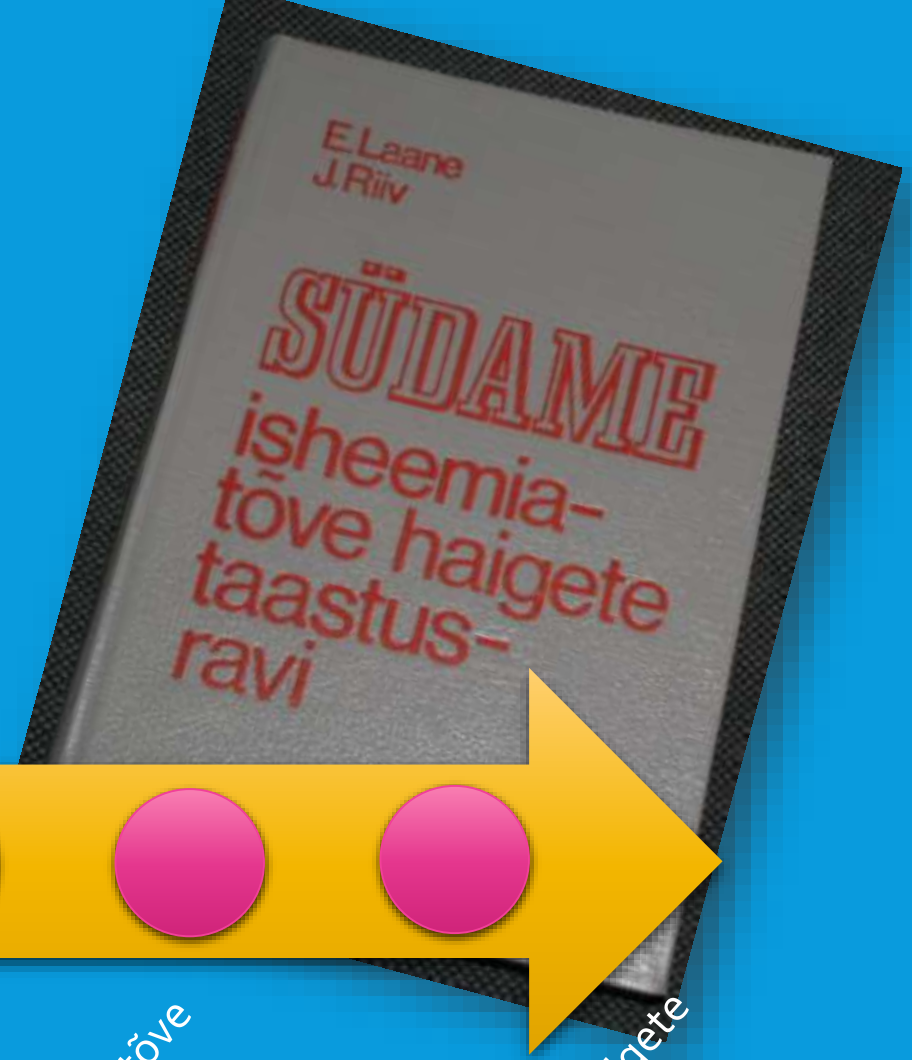
1960: first CABG

1968: Saltin *et al* Dallas Bed Rest and Exercise Study

1977: first PCI

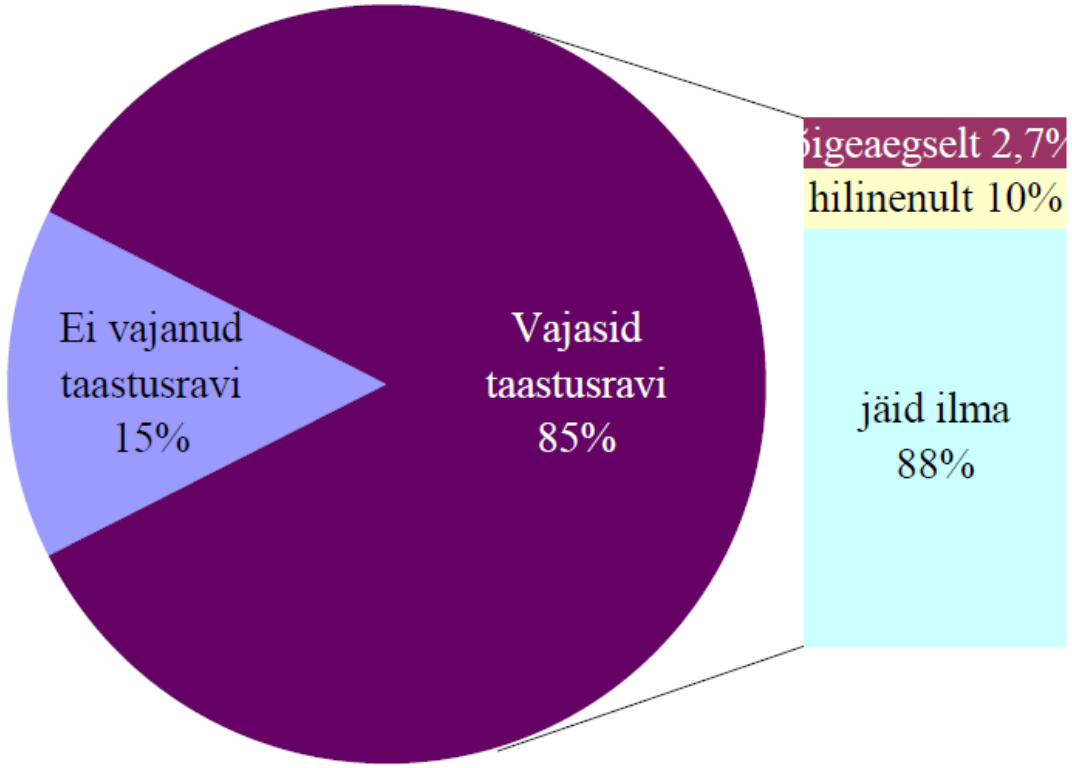
1990: Südame isheemiatõve haigete taastusravi

2005: Eesti juhised südamihaigete taastusraviks



EESTI AUDIT 2006

Joonis 3. Kardioloogiapatsientide taastusravi saamine



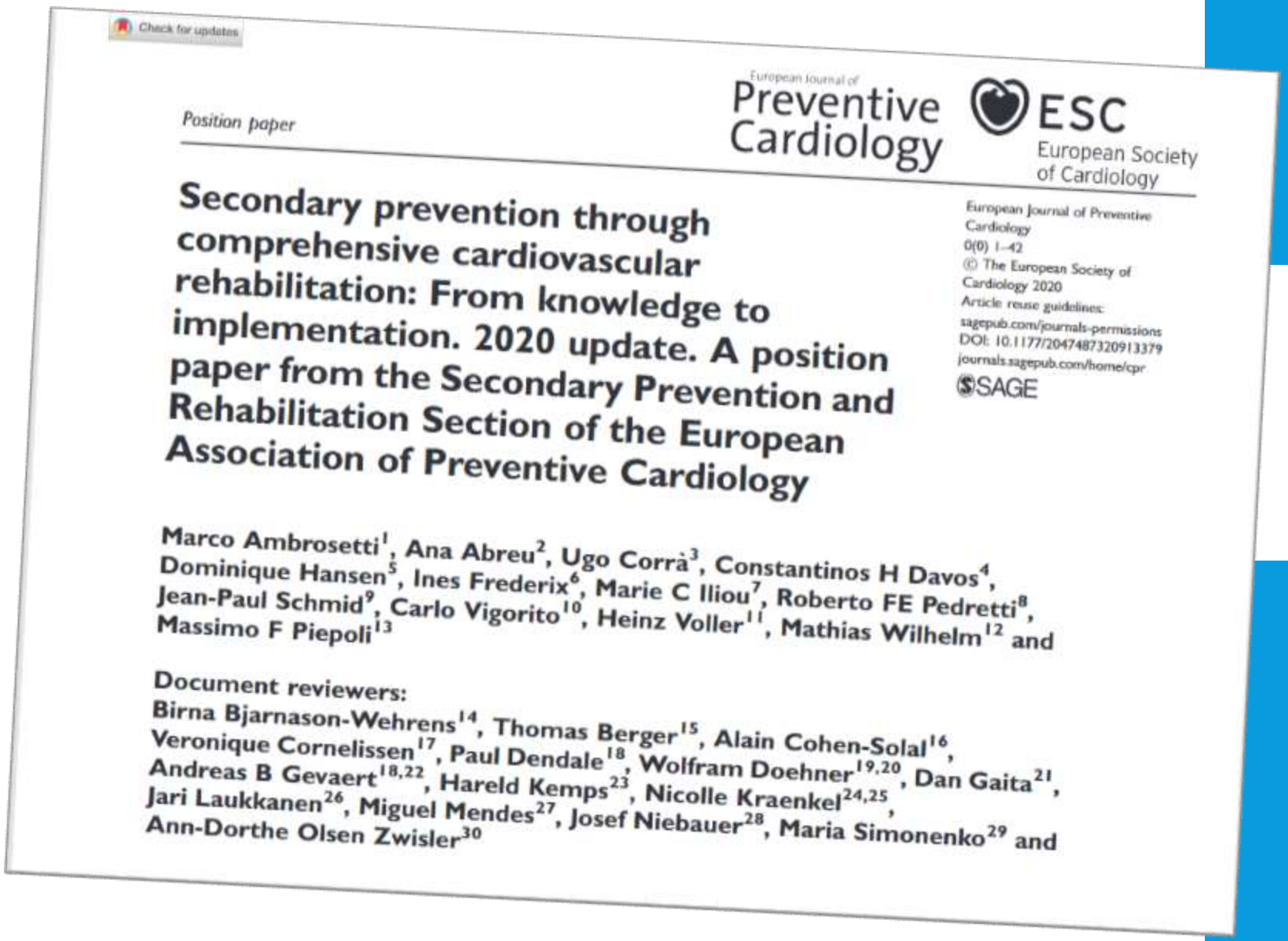
Allikas: Haigekassa raviarved. Riigikontrolli analüüs

SEIS EUROOPAS

Table 1. European countries, number of programmes per country, programme response rate and unmet need.

	Number of programmes	Number of responses	Programme response rate (%)	Unmet need[a]
Northern Europe				
Denmark	35	8	22.9%	14,705
England	266	57	21.40%	185,284
Estonia	2	2	100.0%	10,638
Finland	25	11	44.0%	23,227
Iceland	4	4	100.0%	830
Ireland	37	7	18.9%	4900
Latvia	2	1	50.0%	13,943
Lithuania	25	9	36.0%	0
Northern Ireland	13	10	76.90%	6016
Norway	35	0	0.0%	2072
Scotland[c]	69	24	34.8%	9785[b]
Sweden	69	1	1.4%	40,125
Wales	17	16	94.1%	9057

- *Card* *Eur J Prev Card 2019*



Check for updates

Position paper

European Journal of Preventive Cardiology

ESC European Society of Cardiology

Secondary prevention through comprehensive cardiovascular rehabilitation: From knowledge to implementation. 2020 update. A position paper from the Secondary Prevention and Rehabilitation Section of the European Association of Preventive Cardiology

Marco Ambrosetti[1], Ana Abreu[2], Ugo Corrà[3], Constantinos H Davos[4], Dominique Hansen[5], Ines Frederix[6], Marie C Iliou[7], Roberto FE Pedretti[8], Jean-Paul Schmid[9], Carlo Vigorito[10], Heinz Voller[11], Mathias Wilhelm[12] and Massimo F Piepoli[13]

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European Journal of Preventive Cardiology
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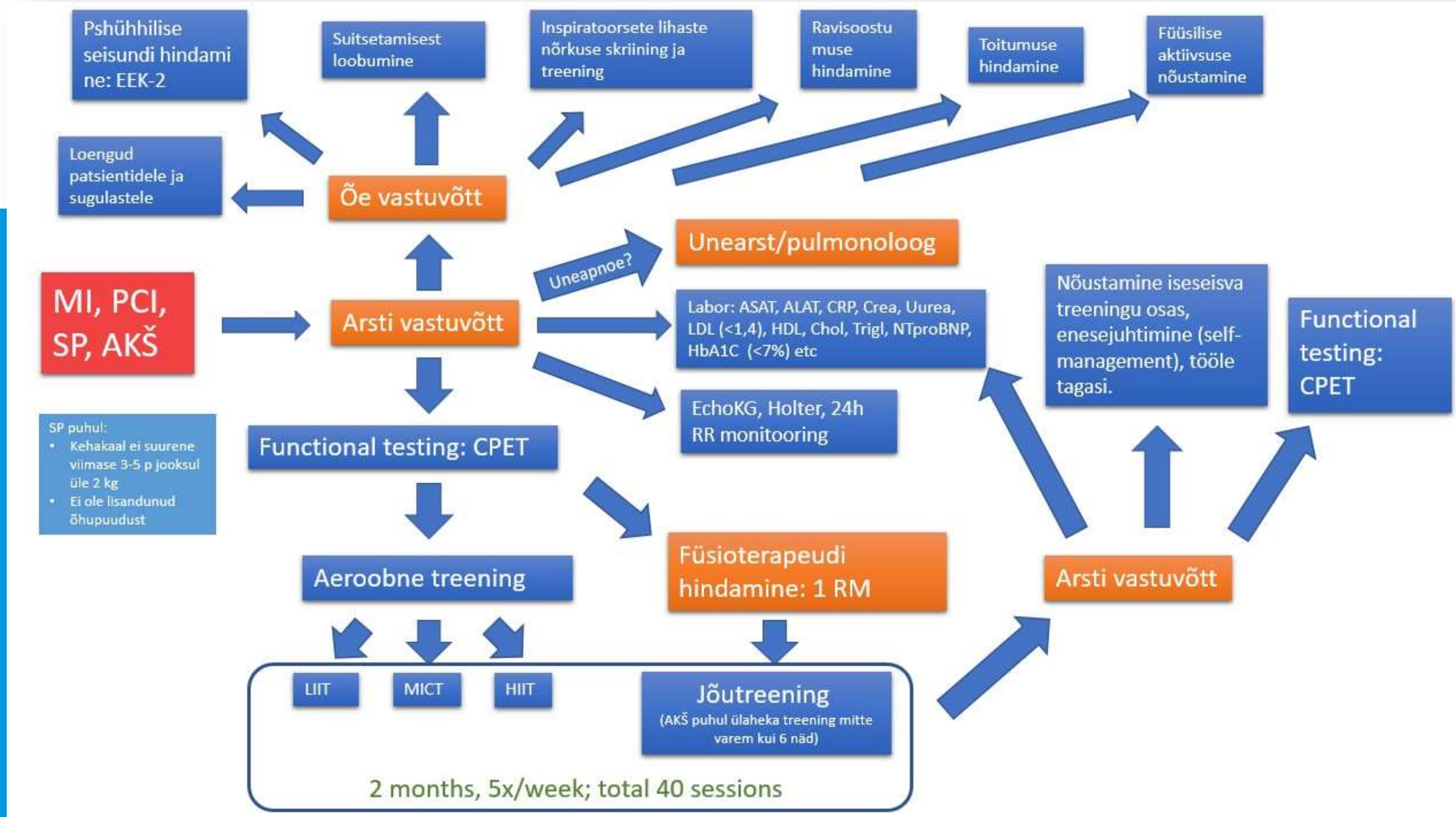
SAGE

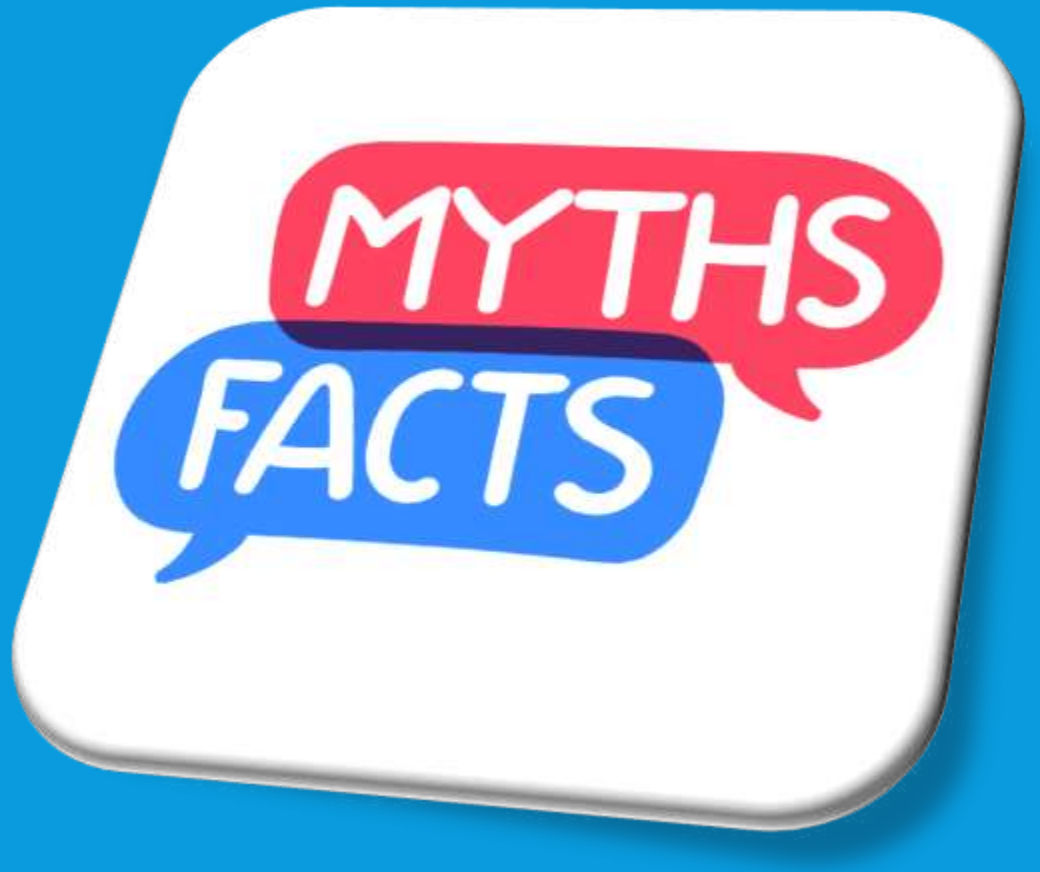
KAASAEGSED JUHISED

CORE COMPONENTS

Secondary prevention through cardiac rehabilitation: from knowledge to implementation. A position paperfrom the Cardiac Rehabilitation Section of the European Association of Cardiovascular Prevention and Rehabilitation. Piepoli et al. Eur J Card Prev 2010

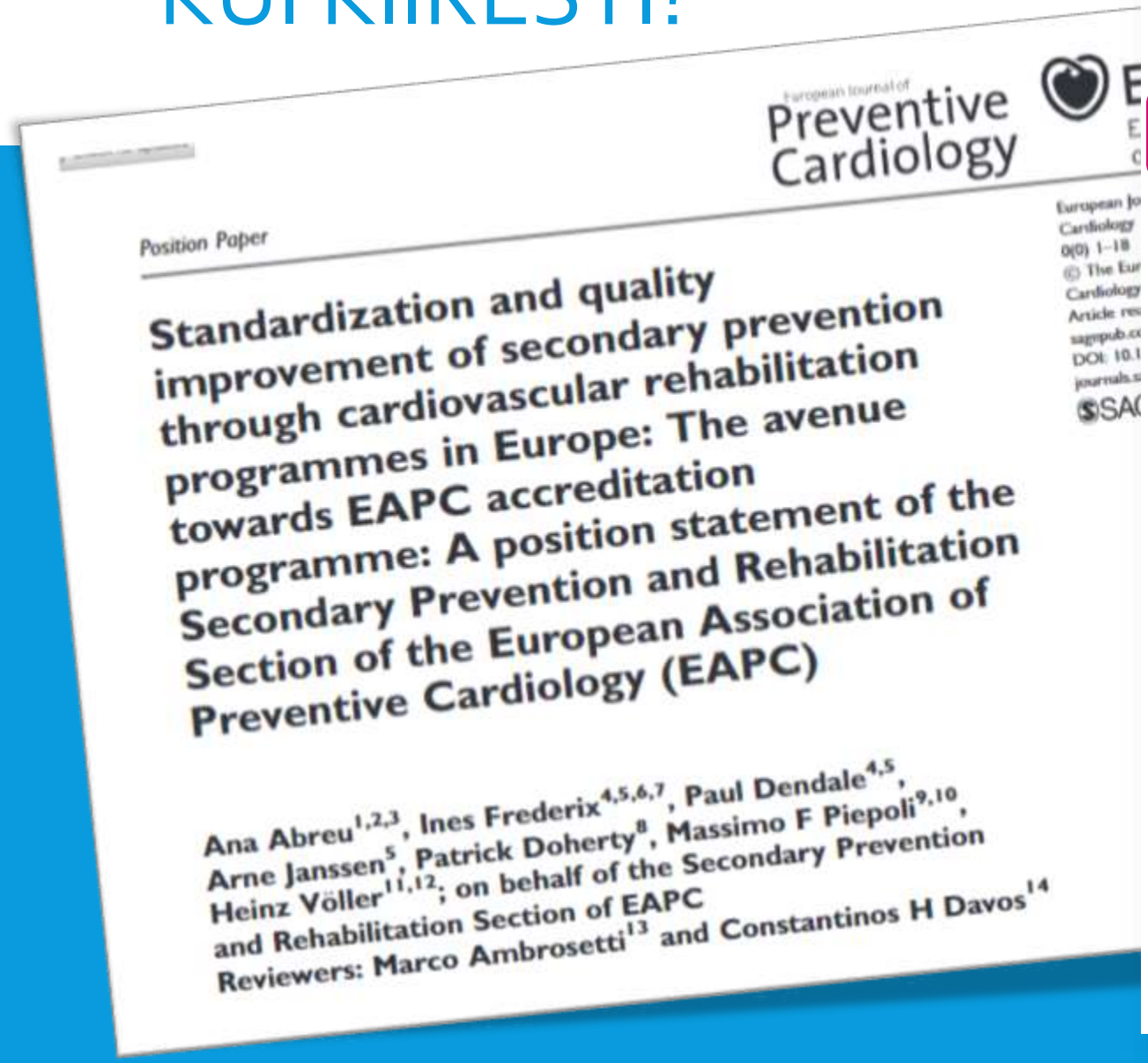

Pshühhilise seisundi hindamine: EEK-2
Suitsetamisest loobumine
Inspiratoorsete lihaste nõrkuse skriining ja treening
Ravisoostumuse hindamine
Toitumuse hindamine
Füüsilise aktiivsuse nõustamine
Loengud patsientidele ja sugulastele
Õe vastuvõtt
MI, PCI, SP, AKŠ
Uneapnoe?
Unearst/pulmonoloog
Arsti vastuvõtt
Labor: ASAT, ALAT, CRP, Crea, Uurea, LDL (<1,4), HDL, Chol, Trigl, NTproBNP, HbA1C (<7%) etc
EchoKG, Holter, 24h RR monitooring
SP puhul:
Kehakaal ei suurene viimase 3-5 p jooksul üle 2 kg
Ei ole lisandunud õhupuudust
Functional testing: CPET
Aeroobne treening
Füsioterapeudi hindamine: 1 RM
LIT
MICT
HIIT
Jõutreening
(AKŠ puhul ülaheka treening mitte varem kui 6 näd)
2 months, 5x/week; total 40 sessions
Nõustamine iseseisva treeningu osas, enesejuhtimine (self-management), tööle tagasi.
Functional testing: CPET
Arsti vastuvõtt

VÄIDE #1



Taastusravi peab alustama ca 2 kuud peale infarkti

KUI KIIRESTI?



European Journal of Preventive Cardiology

Position Paper

Standardization and quality improvement of secondary prevention through cardiovascular rehabilitation programmes in Europe: The avenue towards EAPC accreditation programme: A position statement of the Secondary Prevention and Rehabilitation Section of the European Association of Preventive Cardiology (EAPC)

Ana Abreu[1,2,3], Ines Frederix[4,5,6,7], Paul Dendale[4,5], Arne Janssen[5], Patrick Doherty[8], Massimo F Piepoli[9,10], Heinz Völler[11,12]; on behalf of the Secondary Prevention and Rehabilitation Section of EAPC
Reviewers: Marco Ambrosetti[13] and Constantinos H Davos[14]

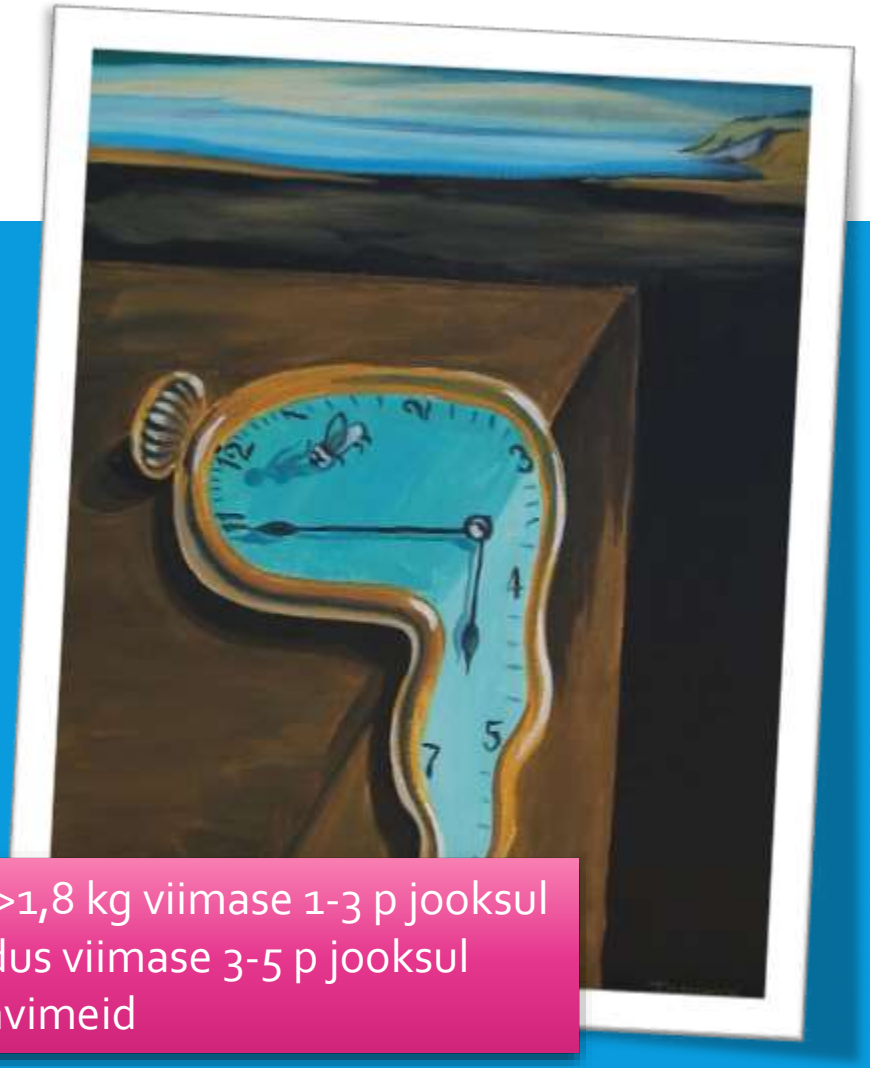
Table 10. Quality indicators.

Quality indicators
% Patients eligible to CR referred after discharge to CR programme (>80%)
% Eligible patients to CR, enrolled after discharge (>50%)
Median waiting time from referral to start of CR (within 14–28 days)[a]
% CR uptake (minimal 24 sessions with an aim of 36 sessions)
% CR adherence (>75% completes the programme)
% Drop-out (<25%)
% Patients with a recorded assessment before starting CR (>80%)
% Patients with a recorded assessment after starting CR (>80%)
% Pharmacological adherence improvement (>80%)
% Weight reduction in obese and overweight (>5%)[b]
% Functional capacity improvement (>5%)
% Muscle strength improvement (>5%)
% Quality of life score improvement (>10%)
% Anxiety/depression score improvement (>10%)
% Smoking cessation (>50%)
% BP control in hypertension (>50%)
% Lipids control in dyslipidaemia (>50%)
% Glycaemic control in diabetes (>50%)

BP: blood pressure; CR: cardiac rehabilitation; MI: myocardial infarction.
[a]14 Days for MI and 28 days for CABG.
[b]Except for those on smoking cessation where maintenance of weight is acceptable.

ÄKKI SAAB KIIREMINI?

- **AKŠ, klapiprotees** (1 nädal peale op kui kliiniline seisund lubab) [1,2]
- **ÄKS, PKI** (stabiilsuse saavutamisel, kuid mitte varem kui 2 päeva[2])
- **Krooniline koronaarsündroom** [2]
- **Krooniline südamepuudulikkus** (stabiilsuse saavutamisel[3,4])



- Kehakaal ei suurene >1,8 kg viimase 1-3 p jooksul
- Ei lisandunud hingeldus viimase 3-5 p jooksul
- Ei ole inotroopseid ravimeid

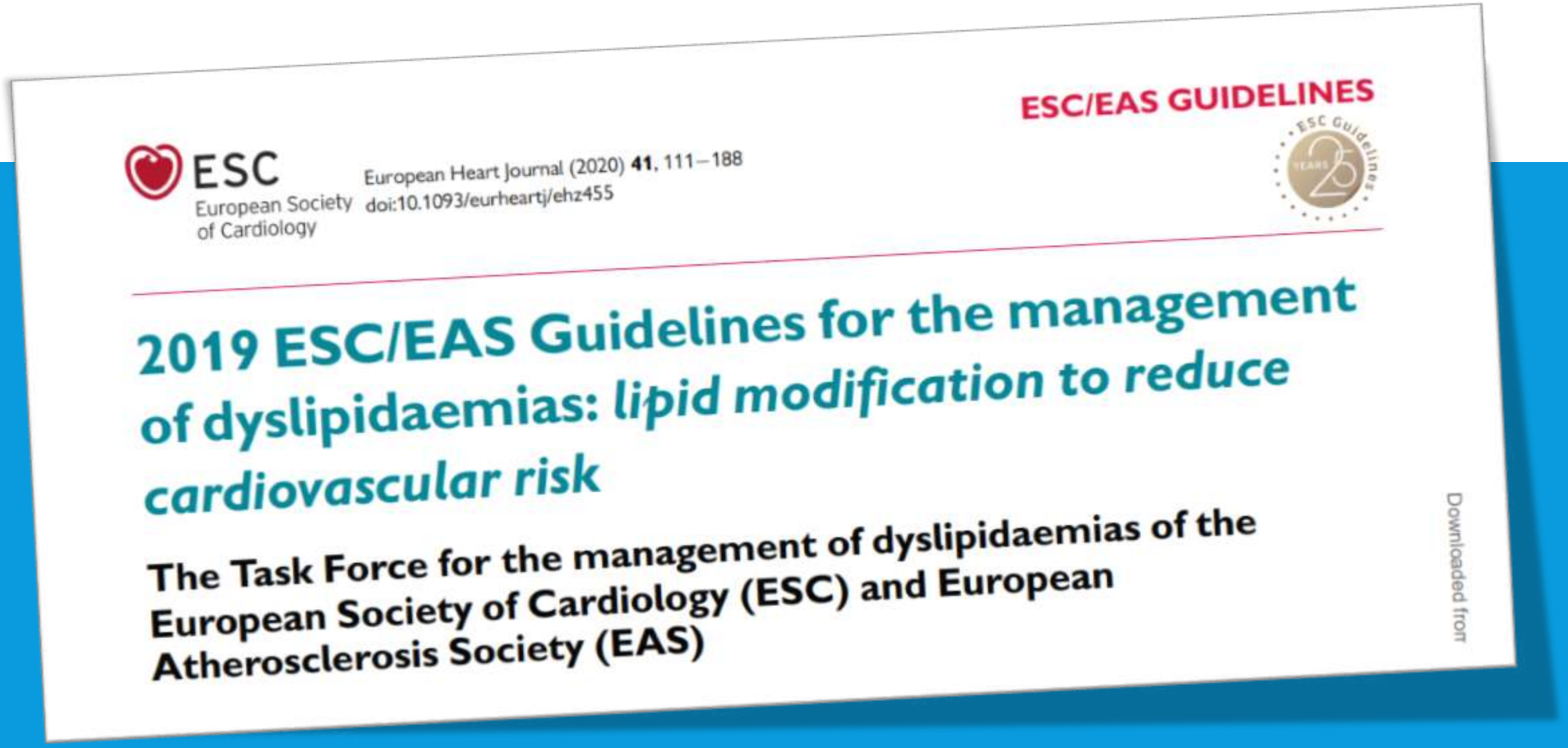
1. *Safety and efficacy of aerobic exercise commenced early after cardiac surgery: A systematic review and meta-analysis. Doyle MP, Eur J Prev Cardiol 2019*
2. *Secondary prevention through cardiac rehabilitation: physical activity counselling and exercise training. Position Paper. Eur Heart J 2010*
3. *Interval training early after heart failure decompensation is safe and improves exercise tolerance and quality of life in selected patients. Artem Doletsky et al. EurJPrevC 2018*
4. *Exercise training in heart failure: from theory to practice. A consensus document of the Heart Failure Association and the European Association for Cardiovascular Prevention and Rehabilitation Massimo F. Piepoli et al 2011.*

VÄIDE #1

Taastusravi peab alustama ca 2 kuud peale infarkti

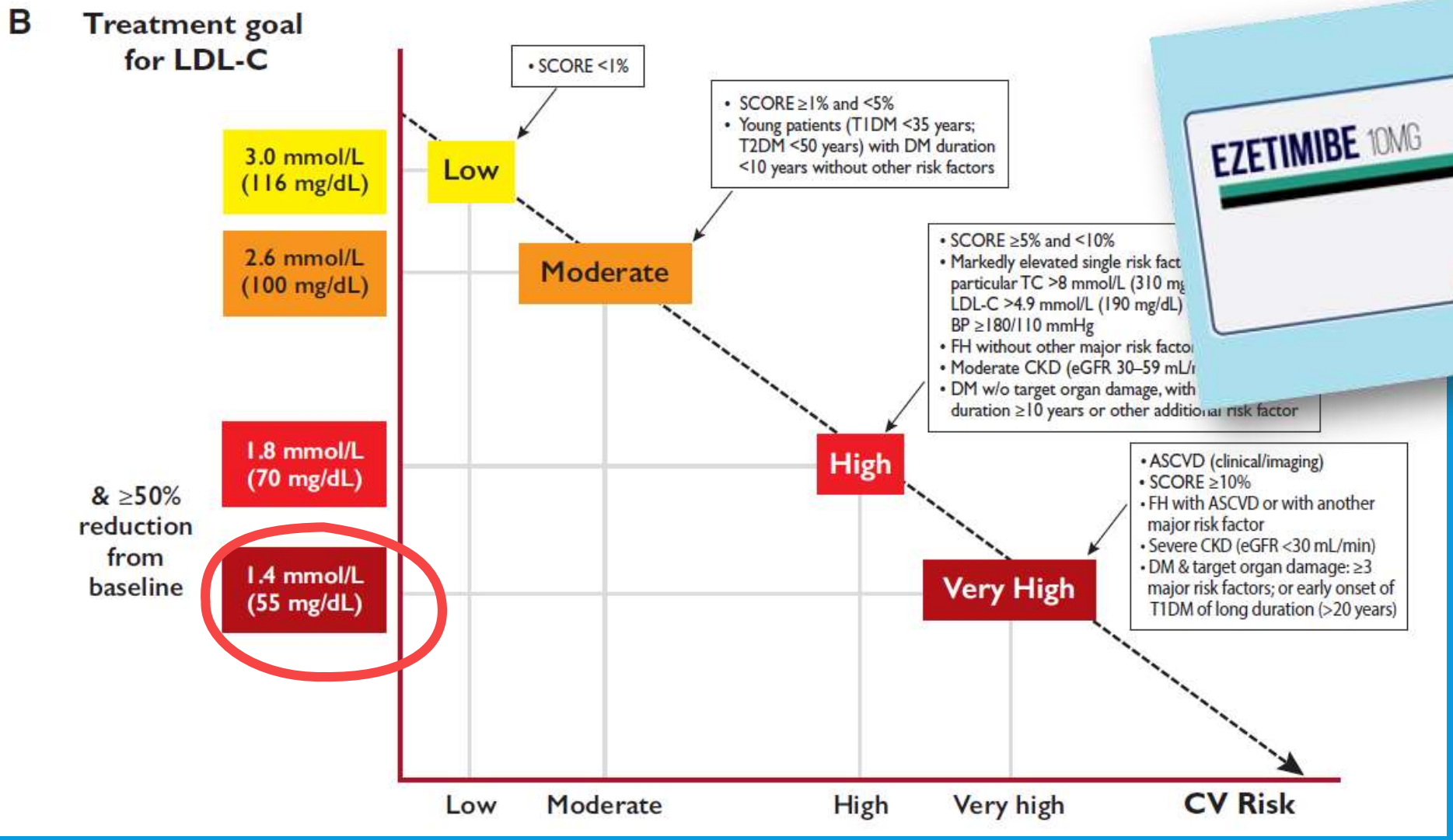
VÄIDE #2

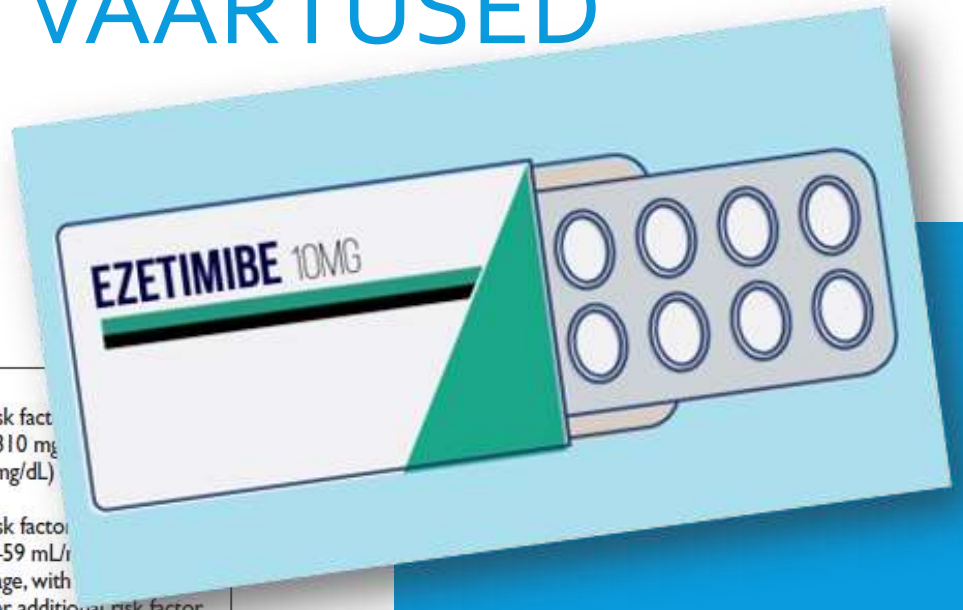
Liiga madal LDL tase ei ole tervislik



- *2019 ESC/EAS Guidelines for the management of dyslipidaemias: lipid modification to reduce cardiovascular risk*

LDL SIHTVÄÄRTUSED





- *2019 ESC/EAS Guidelines for the management of dyslipidaemias: lipid modification to reduce cardiovascular risk*

VÄIDE #2

VALE

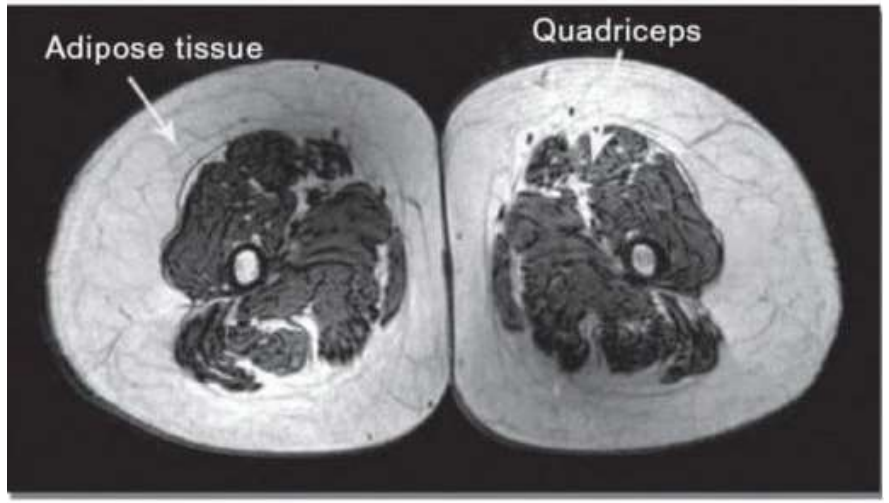
Liiga madal LDL tase ei ole tervislik

VÄIDE #3

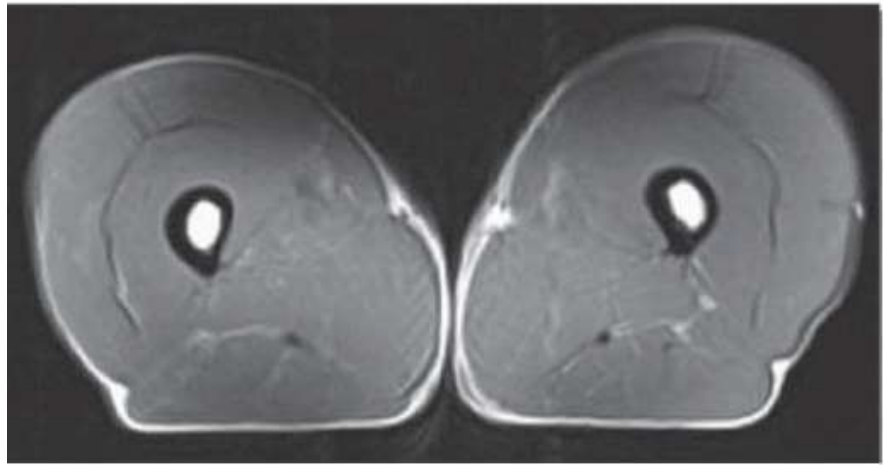
Südamehaigele jõutreening ei sobi

If you don't use it, you waste it!

74-year-old sedentary male



70-year-old male triathlete

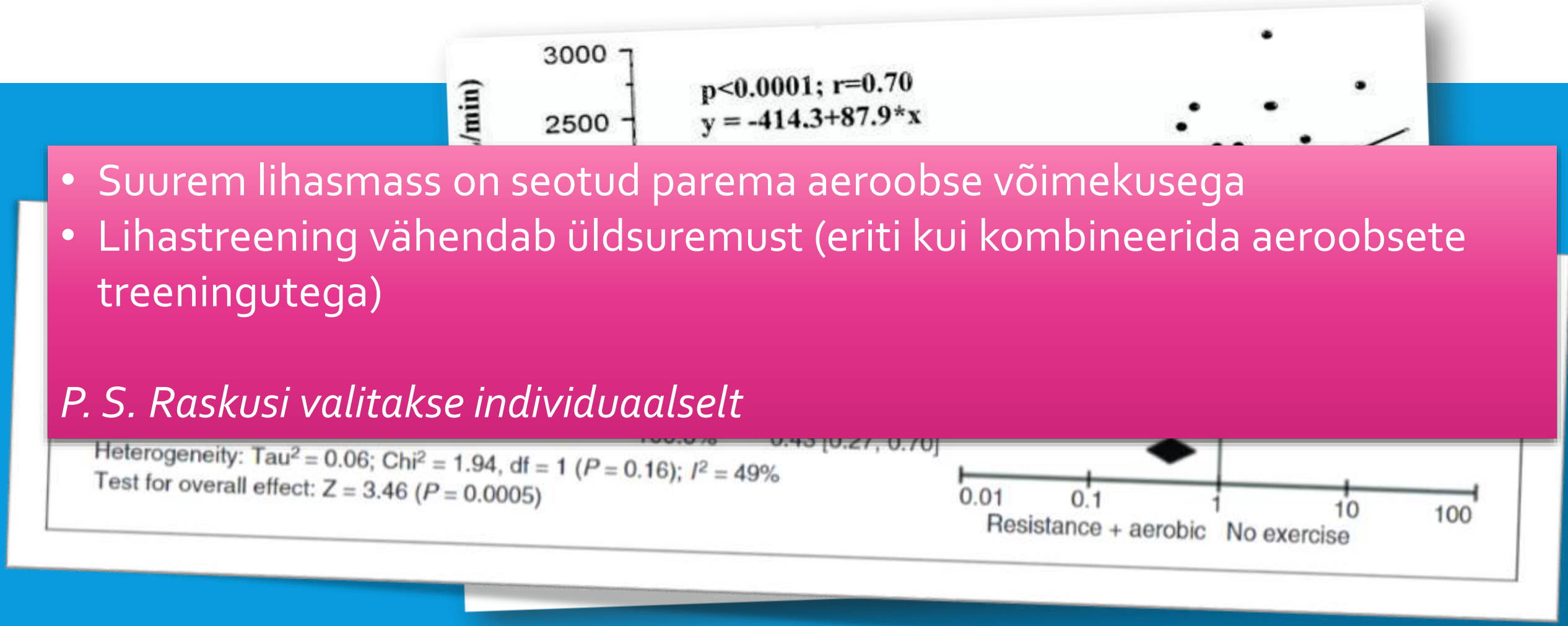


Progressive resistance strength training for improving physical function in older adults (Review)

Liu CJ, Latham NK

- Positive effects on …
  - Gait speed
  - Time up & go
  - Chair rising
  - Stair climbing
  - Falls
  - Vitality
- No adverse event

SÜDAMEHAIGED?



- Suurem lihasmass on seotud parema aeroobse võimekusega
- Lihastreening vähendab üldsuremust (eriti kui kombineerida aeroobsete treeningutega)

P. S. Raskusi valitakse individuaalselt

- *Skeletal Muscle Mass Independently Predicts Peak Oxygen Consumption and Ventilatory Response During Exercise in Noncachectic Patients With Chronic Heart Failure Mariantonietta Cicoira, JACC 2001*
- *The association of resistance trainingwith mortality: A systematic review and meta-analysis Farzane Saeidifard et al, EJPC 2019*

VÄIDE #3

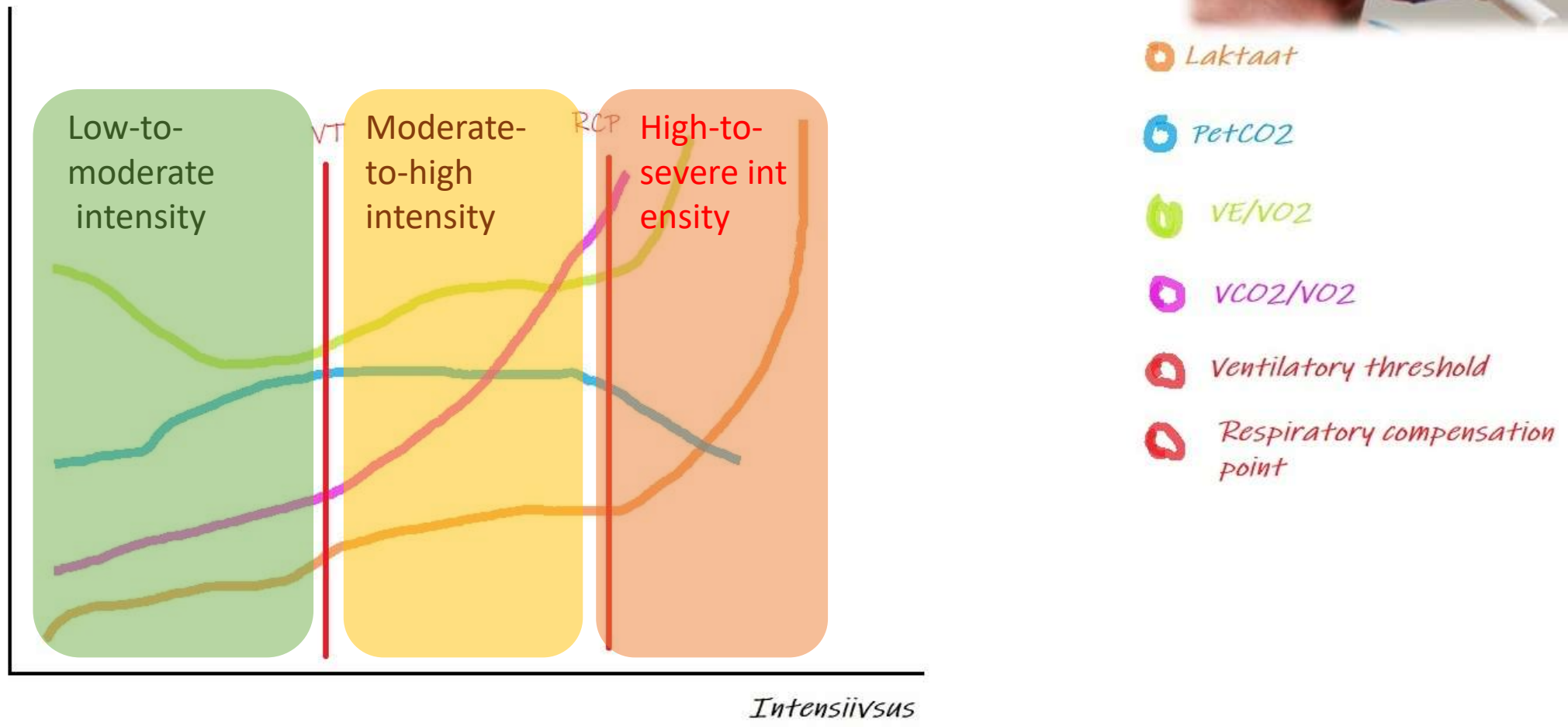
VALE

Südamehaigele jõutreening ei sobi

VÄIDE #4

Südamehaige peaks intesiivsest treeningust eemale hoidma

Treeningintensiivsus



- Laktaat
- PetCO2
- VE/VO2
- VCO2/VO2
- Ventilatory threshold
- Respiratory compensation point

Aerobic exercise intensity assessment and prescription in cardiac rehabilitation: a joint position statement of the European Association for Cardiovascular Prevention and Rehabilitation, the American Association of Cardiovascular and Pulmonary Rehabilitation and the Canadian Association of Cardiac Rehabilitation Alessandro Mezzani et al 2012

Table 5. Evidence-based prescribable aerobic exercise intensity in cardiac patient groups

	Exercise intensity domains			
	Light to moderate	Moderate to high	High to severe	Severe to extreme
Stable angina pectoris	√[a]	√[a]	√[a]	
Chronic CAD (no residual ischaemia)	√	√	√	√
PCI		√	√	
Pacemaker				
ICD				
Chronic AF				
CABG				
Valve repair/replacement				
CHF				
LVAD				
Heart transplantation				

The grey areas identify intensity domai
artery disease; PCI: percutaneous cor
CABG: coronary artery by-pass grafti
work rate must in any case be lower th
highly variable chronotropic response;

Recommendations for exercise in individuals with long-standing chronic coronary syndrome

Recommendations	Class[a]	Level[b]
Risk stratification for exercise-induced adverse events is recommended in individuals with established (long-standing) chronic coronary syndrome (CCS) prior to engaging in exercise.[233]	I	C
Regular follow-up and risk stratification of patients with CCS is recommended.[233]	I	B
It is recommended that individuals at high risk of an adverse event from CAD are managed according to the current Guidelines on CCS.[233]	I	C
Competitive or leisure sports activities (with some exceptions such as older athletes and sports with extreme CV demands) should be considered in individuals at low risk of exercise-induced adverse events (*Table 11*).[233]	IIa	C
Leisure-time exercise, below the angina and ischaemic thresholds, may be considered in individuals at high risk of exercise-induced adverse events (*Table 11*), including those with persisting ischaemia.[233]	IIb	C
Competitive sports are not recommended in individuals at high risk of exercise-induced adverse events or those with residual ischaemia, with the exception of individually recommended skill sports.[233]	III	C

CAD = coronary artery disease; CCS = chronic coronary syndrome; CV = cardiovascular.
[a]Class of recommendation.
[b]Level of evidence.

- *2020 ESC Guidelines on sports cardiology and exercise in patients with cardiovascular disease*
- *Aerobic exercise intensity assessmentand prescription in cardiac rehabilitation:a joint position statement... AmericanAssociation of Cardiovascular andPulmonary Rehabilitation and theCanadian Association of ... 12*

TREENINGU OHUD

- *Intervalltreeningu ajal kardiovaskulaarsündmuste **risk on väike***
  - 1 sündmus 129456 treeningtunni kohta (moderate intensity)
  - 1 sündmus 23183 treeningtunni kohta (High intensity)

- ***Cardiovascular Risk of High- Versus Moderate-Intensity Aerobic Exercise in Coronary Heart Disease Patients Rognmo et al 2012***

VÄIDE #4

VALE

Südamelihase peaks intensiivsest treeningust eemale hoidma

VÄIDE #5

Taastusravi vähendab suremust

AASTA 2016

Recommendations	Class[a]	Level[b]	Ref[c]
Participation in a CR programme for patients hospitalized for an acute coronary event or revascularization, and for patients with HF, is recommended to improve patient outcomes.	I	A	555, 556

- *2016 European Guidelines on cardiovascular disease prevention in clinical practice*

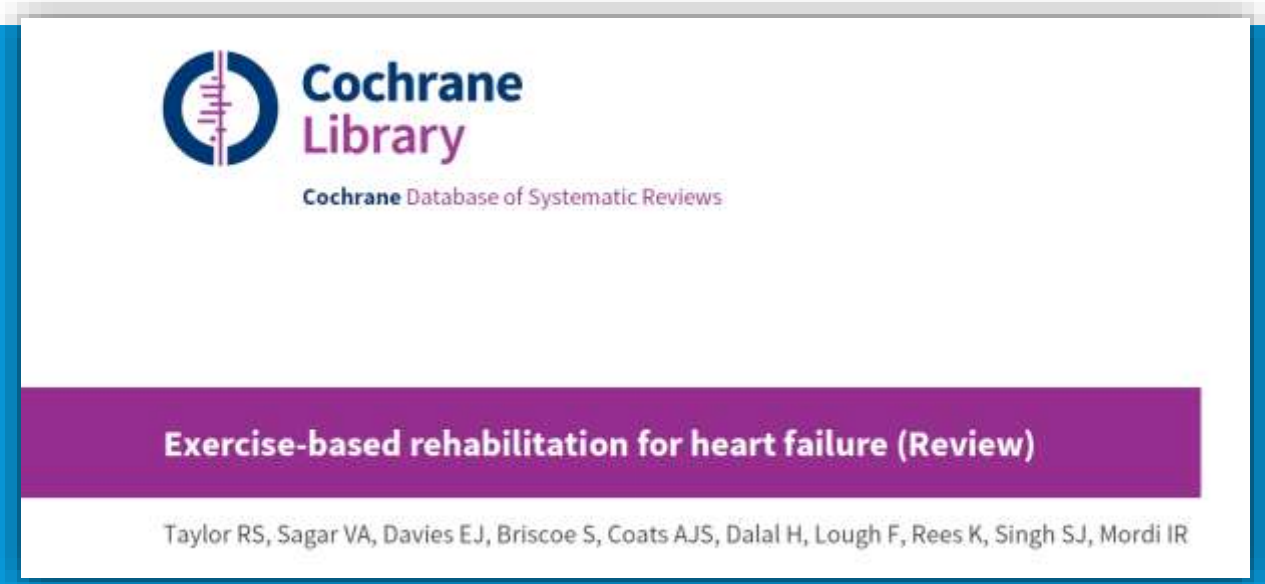
MIKS?

Koronaarhaiguste puhul:

- All-cause mortality väheneb 19%
- Kardiaalne suremus 26% vähem
- Rehospitaliseerimised esimesel aastal 31% vähem

Südamepuudulikkuse puhul:

- All-cause mortality 11%
- Overall hospitalisations 25%
- HF-specific hospitalisations 39% vähem.

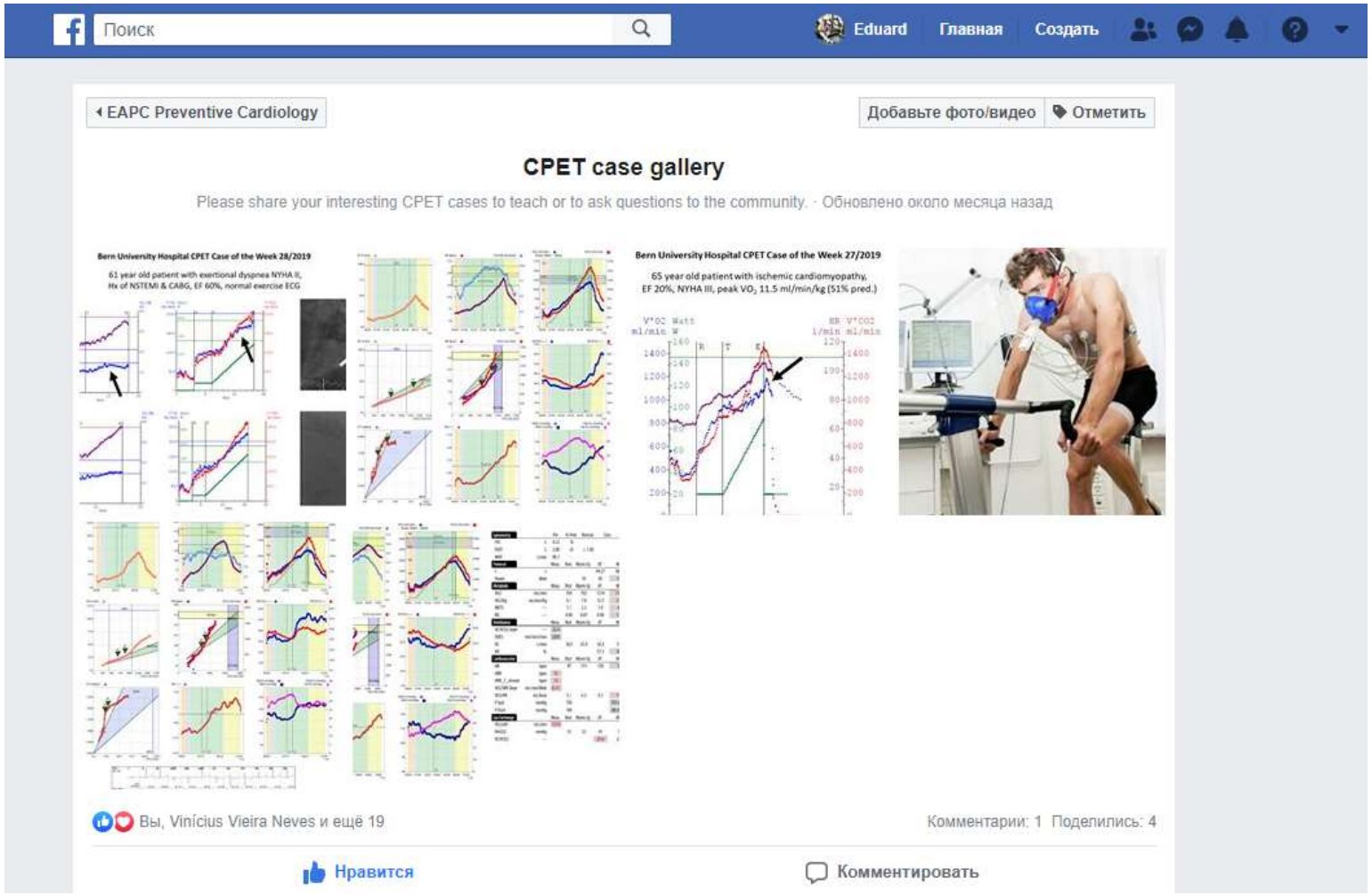


VÄIDE #5

Taastusravi vähendab suremust

TAKE HOME MESSAGE

✓Suunake!



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JOIN - open to all

ESC

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European Association
of Preventive Cardiology

ESC Preventive Cardiology 2021

Thursday, 15 April - Saturday, 17 April 2021

Formerly EuroPrevent

Save the dates in your calendar as the congress is going digital.

Wherever you are in the world you can now join your peers to learn and exchange live on all topics in primary and secondary cardiovascular prevention, sports cardiology, primary care and rehabilitation.

This is the online congress to be for cardiologists, general practitioners, basic scientists, young researchers, policymakers and allied health professionals such as our colleagues in physiotherapy, psychology, nursing and nutritional science.

Make the most of it by presenting your work. Abstracts and Clinical Cases submission is now open.

More details on registration will be announced shortly. Stay tuned!

ESC

EAPC members get discounts

TÄNAN!

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