Kardiologisches Kolloquium 11.9.2019

Neuigkeiten vom ESC

Prävention

Kantonsspital St.Gallen

Klinik für Kardiologie

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Going global: Welcome to ESC Congress 2019 and the World Congress of Cardiology

Prof. Silvia Priori (ESC)

Prof. Marco Roffi (ESC)

Prof. Karen Sliwa (WHF)

……But ESC Congress 2019 is not just ‘another cardiology meeting’—it is the largest summit in cardiovascular medicine in the world….

Going global: Welcome to ESC Congress 2019 and the World Congress of Cardiology

The Tour de Coeur has its own Tour de France!

Promoting the importance of physical activity, the now-famous group of Swiss cardiologists completed their ninth annual 'Tour de Coeur' by cycling over 500 km from Geneva to the ESC Congress venue, arriving in Paris yesterday.

- Zum neunten Mal
- In Planung für das Jubiläum……

ESC European Society of Cardiology

European Heart Journal (2019) **00**, 1–78
doi:10.1093/eurheartj/ehz455

ESC/EAS GUIDELINES

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

The Task Force for the management of dyslipidaemias of the European Society of Cardiology (ESC) and European Atherosclerosis Society (EAS)

Authors/Task Force Members: François Mach* (Chairperson) (Switzerland), Colin Baigent* (Chairperson) (United Kingdom), Alberico L. Catapano[1]* (Chairperson) (Italy), Konstantinos C. Koskinas (Switzerland), Manuela Casula[1] (Italy), Lina Badimon (Spain), M. John Chapman[1] (France), Guy G. De Backer (Belgium), Victoria Delgado (Netherlands), Brian A. Ference (United Kingdom), Ian M. Graham (Ireland), Alison Halliday (United Kingdom), Ulf Landmesser (Germany), Borislava Mihaylova (United Kingdom), Terje R. Pedersen (Norway), Gabriele Riccardi[1] (Italy), Dimitrios J. Richter (Greece), Marc S. Sabatine (United States of America), Marja-Riitta Taskinen[1] (Finland), Lale Tokgozoglu[1] (Turkey), Olov Wiklund[1] (Sweden)

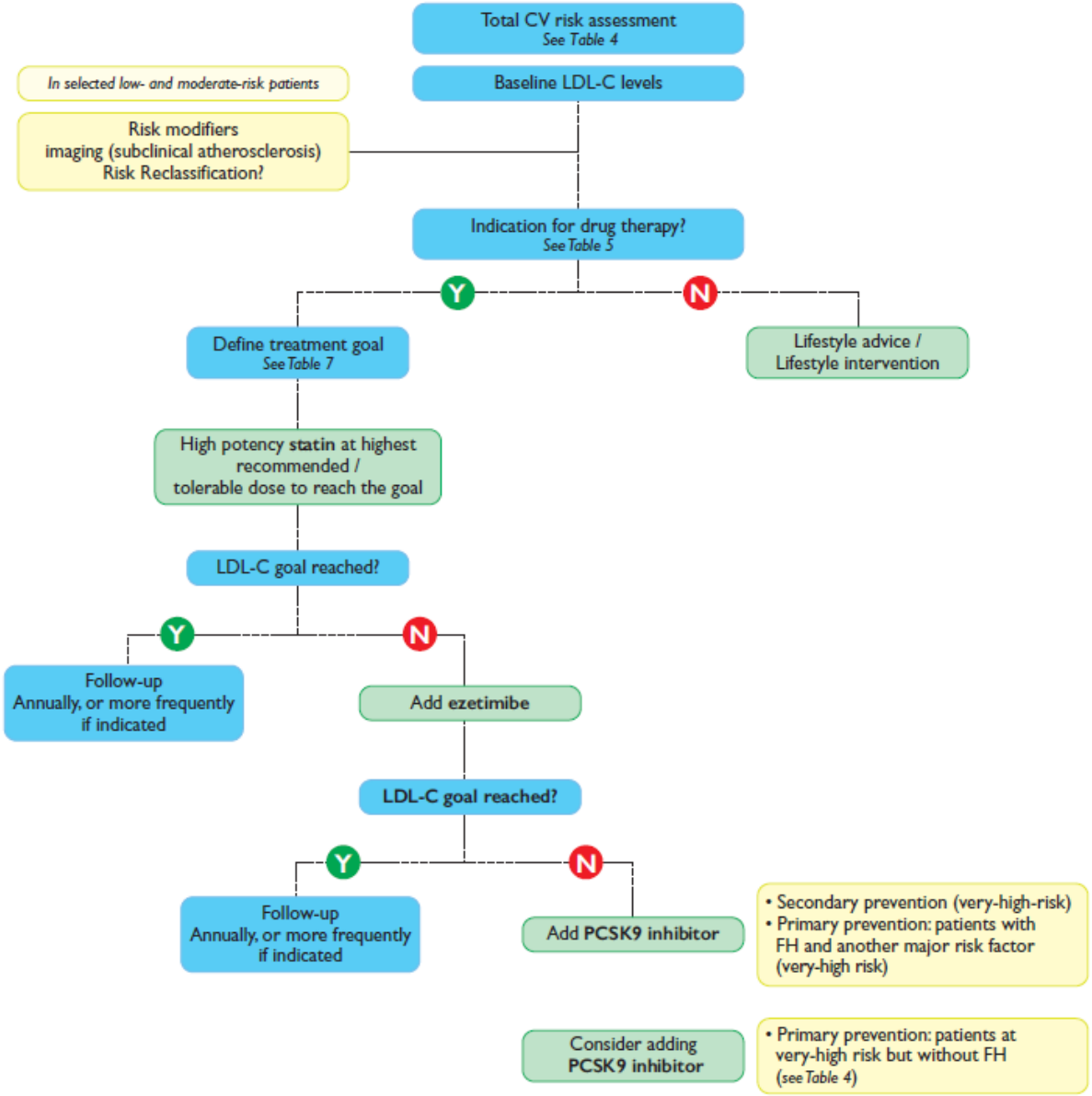
Was ist neu: Diagnostik/Therapie

Lipid analyses for CVD risk estimation	**Lipid analyses for CVD risk estimation**
ApoB should be considered as an alternative risk marker whenever available, especially in individuals with high TG.	ApoB analysis is recommended for risk assessment, particularly in people with high TG, DM, obesity or metabolic syndrome, or very low LDL-C. It can be used as an alternative to LDL-C, if available, as the primary measurement for screening, diagnosis, and management, and may be preferred over non-HDL-C in people with high TG, DM, obesity, or very low LDL-C.
Pharmacological LDL-C lowering	**Pharmacological LDL-C lowering**
If the LDL goal is not reached, statin combination with a cholesterol absorption inhibitor should be considered.	If the goals are not achieved with the maximum tolerated dose of statin, combination with ezetimibe is recommended.
Pharmacological LDL-C lowering	**Pharmacological LDL-C lowering**
In patients at very-high risk, with persistent high LDL-C despite treatment with maximal tolerated statin dose, in combination with ezetimibe or in patients with statin intolerance, a PCSK9 inhibitor may be considered.	For secondary prevention, patients at very-high risk not achieving their goal on a maximum tolerated dose of statin and ezetimibe, a combination with a PCSK9 inhibitor is recommended.
	For very-high-risk FH patients (that is, with ASCVD or with another major risk factor) who do not achieve their goals on a maximum tolerated dose of statin and ezetimibe, a combination with a PCSK9 inhibitor is recommended.
Drug treatments of hypertriglyceridaemia	**Drug treatments of hypertriglyceridaemia**
Statin treatment may be considered as the first drug of choice for reducing CVD risk in high-risk individuals with hypertriglyceridaemia.	Statin treatment is recommended as the first drug of choice for reducing CVD risk in high-risk individuals with hypertriglyceridaemia [TG >2.3 mmol/L (200 mg/dL)].

Was ist neu: Therapie

Treatment of patients with heterozygous FH	**Treatment of patients with heterozygous FH**
Treatment should be considered to aim at reaching an LDL-C <2.6 mmol/L (<100 mg/dL) or in the presence of CVD <1.8 mmol/L (<70 mg/dL). If targets cannot be reached, maximal reduction of LDL-C should be considered using appropriate drug combinations.	For FH patients with ASCVD who are at very-high risk, treatment to achieve at least a 50% reduction from baseline and an LDL-C <1.4 mmol/L (<55 mg/dL) is recommended. If goals cannot be achieved, a drug combination is recommended.
Treatment of patients with heterozygous FH	**Treatment of patients with heterozygous FH**
Treatment with a PCSK9 antibody should be considered in FH patients with CVD or with other factors putting them at very-high risk for CHD, such as other CV risk factors, family history, high Lp(a), or statin intolerance.	Treatment with a PCSK9 inhibitor is recommended in very-high-risk FH patients if the treatment goal is not achieved on maximal tolerated statin plus ezetimibe.
Treatment of dyslipidaemias in older adults	**Treatment of dyslipidaemias in older people**
Since older people often have comorbidities and have altered pharmacokinetics, lipid-lowering medication should be started at a lower dose and then titrated with caution to achieve target lipid levels that are the same as in younger people.	It is recommended that the statin is started at a low dose if there is significant renal impairment and/or the potential for drug interactions, and then titrated upwards to achieve LDL-C treatment goals.
Lipid-lowering therapy in patients with ACS	**Lipid-lowering therapy in patients with ACS**
If the LDL-C target is not reached with the highest tolerated statin dose and/or ezetimibe, PCSK9 inhibitors may be considered on top of lipid-lowering therapy; or alone or in combination with ezetimibe in statin-intolerant patients or in whom a statin is contraindicated.	If the LDL-C goal is not achieved after 4 - 6 weeks despite maximal tolerated statin therapy and ezetimibe, addition of a PCSK9 inhibitor is recommended.

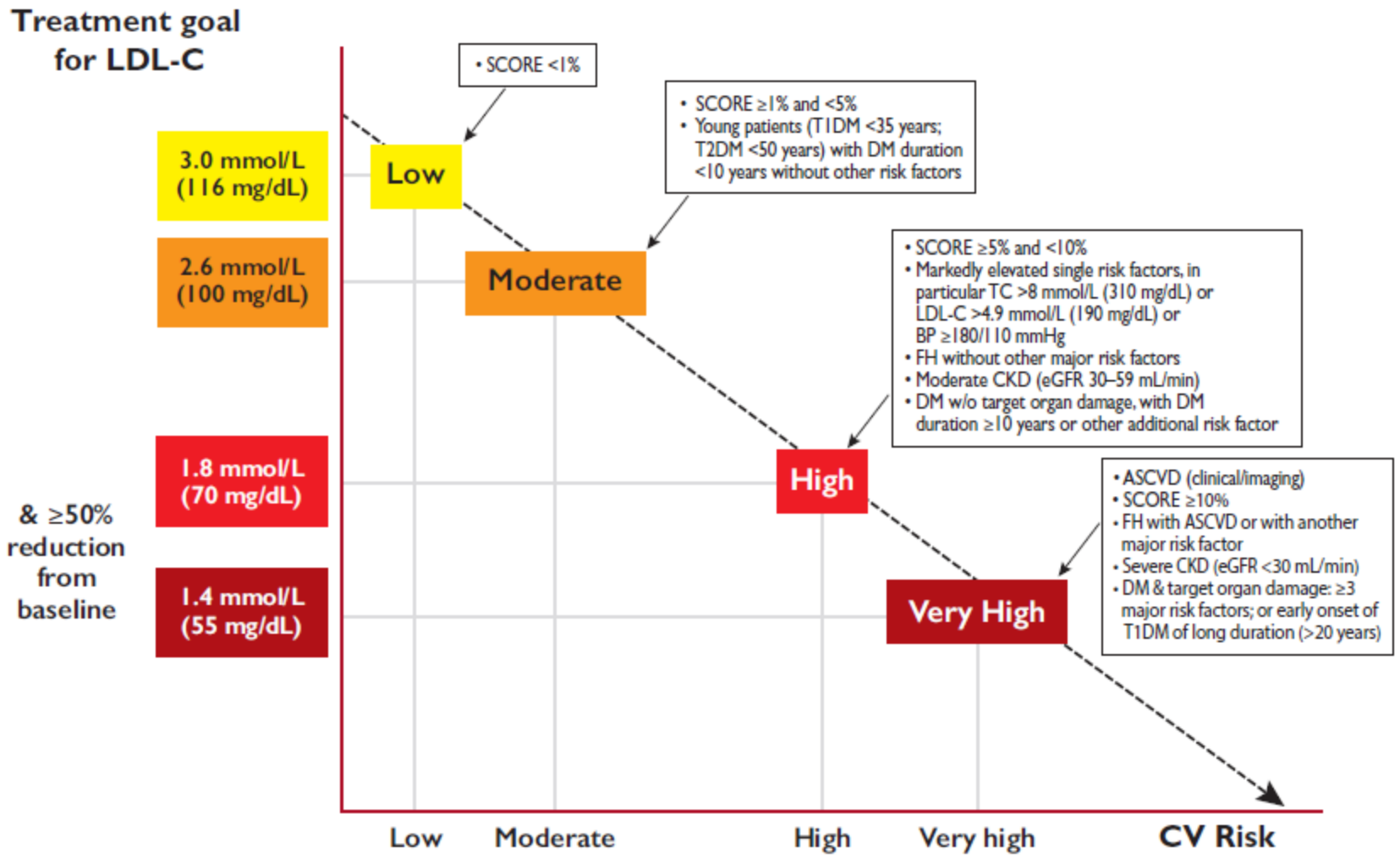
Behandlungsalgorithmus zur medikamentösen LDL-Senkung



Kardiovaskuläres Manual 2019

Risikokategorie	ESC/AGLA	Intervention
Sehr hoch	LDL-C < 1.8 mmol/l (oder Reduktion 50% bei LDL-C 1.8-3.5 mmol/l ohne Therapie) Non-HDL-C < 2.6 mmol/l*, Apo B < 0.8 g/l*	Statin (Ezetimibe, PCSK-9-Hemmer)
Hoch	LDL-C < 2.6 mmol/l (oder Reduktion ≥ 50% bei LDL-C 2.6-5.2 mmol/l ohne Therapie) Non-HDL-C < 3.4 mmol/l*, Apo B < 1.0 g/l*	Statin (Ezetimibe, PCSK-9-Hemmer)
Intermediär	LDL-C < 3.0 mmol/l	Lebensstiländerung (3 Mo), Statin erwägen
Niedrig	–	Lebensstiländerung

Behandlungsziele der verschiedenen Risikokategorien



Kardiologisches Kolloquium Oktober 23. Oktober 2019

Ziele und Zielwerte in der Kardiovaskulären Prävention

- **Welches Blutdruckziel gilt für welchen Patienten?**
  Dr. Dr. Roman Brenner, Klinik für Kardiologie
- **LDL-Cholesterin: ist noch tiefer noch besser?**
  Dr. Stefan Bilz, Klinik für Endokrinologie

ESC European Society of Cardiology

European Heart Journal (2019) **00**, 1–69
doi:10.1093/eurheartj/ehz486

ESC GUIDELINES

2019 ESC Guidelines on diabetes, pre-diabetes, and cardiovascular diseases developed in collaboration with the EASD

The Task Force for diabetes, pre-diabetes, and cardiovascular diseases of the European Society of Cardiology (ESC) and the European Association for the Study of Diabetes (EASD)

Authors/Task Force Members: Francesco Cosentino* (ESC Chairperson) (Sweden), Peter J. Grant* (EASD Chairperson) (United Kingdom), Victor Aboyans (France), Clifford J. Bailey[1] (United Kingdom), Antonio Ceriello[1] (Italy), Victoria Delgado (Netherlands), Massimo Federici[1] (Italy), Gerasimos Filippatos (Greece), Diederick E. Grobbee (Netherlands), Tina Birgitte Hansen (Denmark), Heikki V. Huikuri (Finland), Isabelle Johansson (Sweden), Peter Jüni (Canada), Maddalena Lettino (Italy), Nikolaus Marx (Germany), Linda G. Mellbin (Sweden), Carl J. Östgren (Sweden), Bianca Rocca (Italy), Marco Roffi (Switzerland), Naveed Sattar[1] (United Kingdom), Petar M. Seferović (Serbia), Miguel Sousa-Uva (Portugal), Paul Valensi (France), David C. Wheeler[1] (United Kingdom)

2019 ESC Guidelines on diabetes, pre-diabetes, and cardiovascular diseases developed in collaboration with the European Association for the Study of Diabetes (EASD) European Heart Journal (2019) 0-69

Change in recommendations	
2013	**2019**
BP targets	
BP target <140/85 mmHg for all	Individualized BP targets are recommended SBP to 130 mmHg and, if well tolerated, <130 mmHg, but not <120 mmHg In older people (>65 years) target SBP to a range of 130 - 139 mmHg DBP to <80 mmHg but not <70 mmHg
	On-treatment SBP to <130 mmHg should be considered for patients at high risk of cerebrovascular events or diabetic kidney disease
Lipid targets	
In DM at high CV risk, an LDL-C target of <2.5 mmol/L (<100 mg/dL) In DM at very high CV risk, an LDL-C target of <1.8 mmol/L (<70 mg/dL) is recommended	In patients with T2DM at moderate CV risk, an LDL-C target of <2.5 mmol/L (<100 mg/dL) is recommended In patients with T2DM at high CV risk, an LDL-C target of <1.8 mmol/L (<70 mg/dL) is recommended In patients with T2DM at very high CV risk, an LDL-C target of <1.4 mmol/L (<55 mg/dL) is recommended
Antiplatelet therapy	
Aspirin for primary prevention is not recommended in DM at low CVD risk	Aspirin (75 - 100 mg/day) for primary prevention may be considered in patients with DM at very high/high risk in the absence of clear contraindications
	Aspirin for primary prevention is not recommended in patients with DM at moderate CV risk
Glucose-lowering treatment	
Metformin should be considered as first-line therapy in patients with DM	Metformin should be considered in overweight patients with T2DM without CVD and at moderate CV risk

2019 ESC Guidelines on diabetes, pre-diabetes, and cardiovascular diseases developed in collaboration with the European Association for the Study of Diabetes (EASD)

Change in recommendations	
2013	**2019**
Management of arrhythmias	
Oral anticoagulation in AF (paroxysmal or persistent)	
VKAs or NOACs (e.g. dabigatran, rivaroxaban, or apixaban) are recommended	It is recommended to give preference to NOACs (e.g. dabigatran, rivaroxaban, apixaban, or edoxaban)

Kardiovaskuläres Manual: Diagnostische Richtwerte

	Nüchtern-Plasmaglukose	Oraler Glukosetoleranztest 2-Std.-Wert	HbA_{1c}
Normal	< 5.6 mmol/l	< 7.8 mmol/l	< 5.7%
Gestörte Nüchtern-Glukose	≥ 5.6 und < 7.0 mmol/l	–	–
Verminderte Glukosetoleranz	–	≥ 7.8 und < 11.1 mmol/l	–
Diabetes mellitus	≥ 7.0 mmol/l	≥ 11.1 mmol/l	≥ 6.5%

American Diabetes Association. Diabetes Care. 2019;42;Suppl. 1:S13-S27

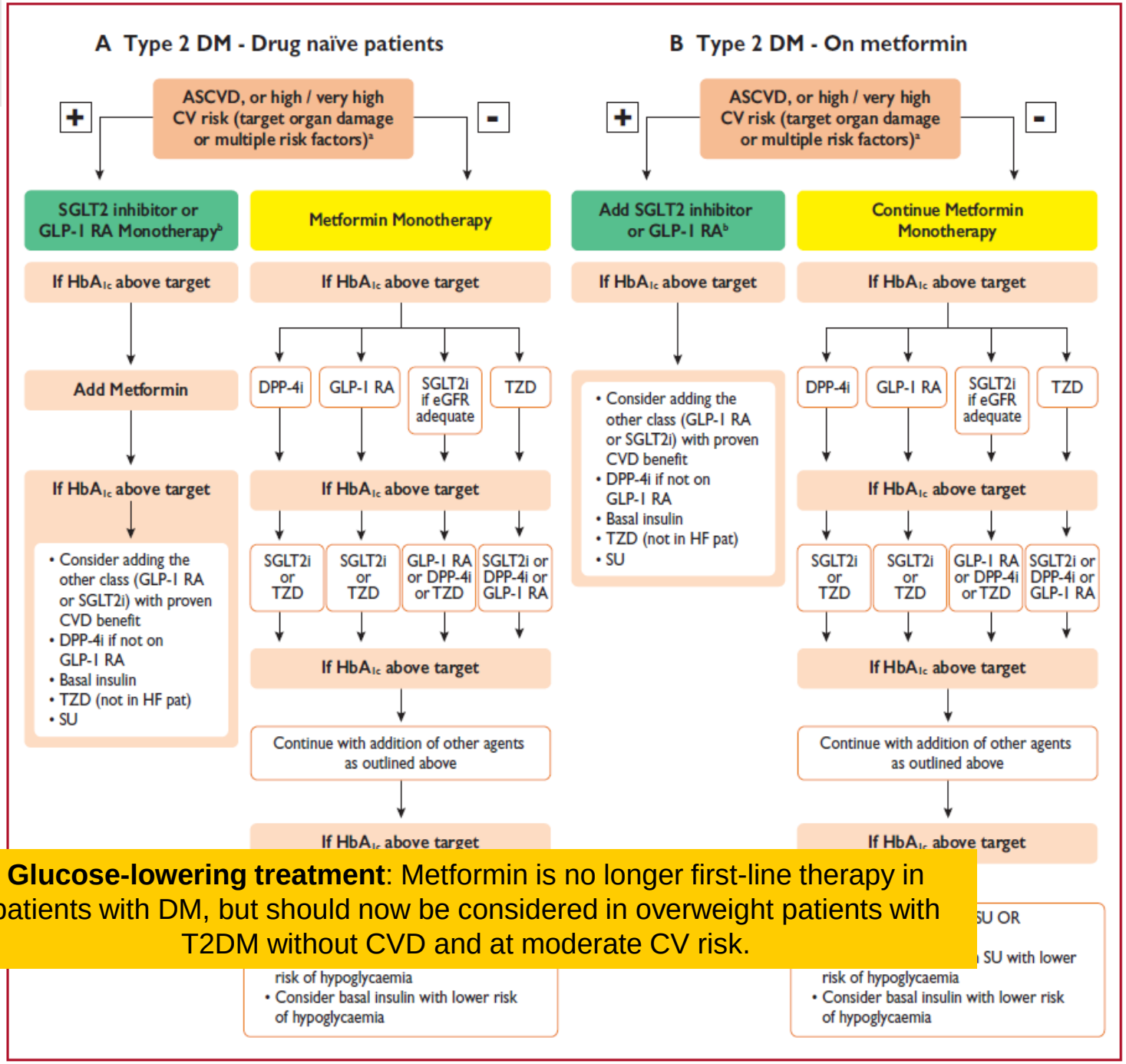
Kriterien für die Diagnose eines Diabetes mellitus

- Plasmaglukose zu einem beliebigen Zeitpunkt ≥ 11.1 mmol/l und klinische Symptome oder
- Nüchtern-Plasmaglukose (venös) ≥ 7.0 mmol/l oder
- Plasmaglukose (venös) 2 Std. nach oGTT (75 g Glukose po) ≥ 11.1 mmol/l oder
- HbA_{1c} ≥ 6.5%

Wichtig

Bestätigung des pathologischen Resultates durch einen weiteren anderen Test in der gleichen Blutentnahme oder an einem anderen Tag. Ein erhöhter HbA_{1c}-Wert soll durch die Bestimmung eines Nüchtern-Plasmaglukose-Wertes oder mittels oGTT überprüft werden. Bestimmungen sind mit Laborgeräten auszuführen (in der Regel venöse Blutentnahme).

Kardiovaskuläres Manual 2019: Individuelle Therapieziele



Glucose-lowering treatment: Metformin is no longer first-line therapy in patients with DM, but should now be considered in overweight patients with T2DM without CVD and at moderate CV risk.

ESC European Society of Cardiology

European Heart Journal (2019) **00**, 1–61
doi:10.1093/eurheartj/ehz405

ESC GUIDELINES

2019 ESC Guidelines for the diagnosis and management of acute pulmonary embolism developed in collaboration with the European Respiratory Society (ERS)

The Task Force for the diagnosis and management of acute pulmonary embolism of the European Society of Cardiology (ESC)

Authors/Task Force Members: Stavros V. Konstantinides* (Chairperson) (Germany/Greece), Guy Meyer* (Co-Chairperson) (France), Cecilia Becattini (Italy), Héctor Bueno (Spain), Geert-Jan Geersing (Netherlands), Veli-Pekka Harjola (Finland), Menno V. Huisman (Netherlands), Marc Humbert[1] (France), Catriona Sian Jennings (United Kingdom), David Jiménez (Spain), Nils Kucher (Switzerland), Irene Marthe Lang (Austria), Mareike Lankeit (Germany), Roberto Lorusso (Netherlands), Lucia Mazzolai (Switzerland), Nicolas Meneveau (France), Fionnuala Ní Áinle (Ireland), Paolo Prandoni (Italy), Piotr Pruszczyk (Poland), Marc Righini (Switzerland), Adam Torbicki (Poland), Eric Van Belle (France), José Luis Zamorano (Spain)

Was ist neu: Diagnostik/Therapie

Recommendations	2014	2019
Rescue thrombolytic therapy is recommended for patients who deteriorate haemodynamically.	IIa	I
Surgical embolectomy or catheter-directed treatment should be considered as alternatives to rescue thrombolytic therapy for patients who deteriorate haemodynamically.	IIb	IIa
D-dimer measurement and clinical prediction rules should be considered to rule out PE during pregnancy or the post-partum period.	IIb	IIa
Further evaluation may be considered for asymptomatic PE survivors at increased risk for CTEPH.	III	IIb

CTEPH = Chronic thromboembolic pulmonary hypertension; PE = pulmonary embolism.

The global burden of CVD: Pulling together to push for change

Prof. Fausto Pinto

How can plans to tackle the global burden of cardiovascular disease (CVD) be translated into concrete actions that will have the wide-ranging impact needed to improve cardiovascular health on the huge scale needed? Professor Fausto Pinto (University of Lisbon, Lisbon, Portugal), President-Elect of the World Heart Federation (WHF) shares his thoughts on what needs to be done to make real progress in this area.

"Scientific societies have a very relevant role to play, because they are a focus for evidence generation that can be used to support calls for public health measures, for example, restricting the salt content of food, to be incorporated into legislation. Organisations, such as the ESC and the WHF have dedicated advocacy groups that are working with different stakeholders, including governments, to promote a range of measures. Working in concert with the societies are the foundations and patient associations, which are vitally important in helping to raise awareness among the general population about CVD and in disseminating the societies' recommendations for reducing the incidence and effects of the disease.

Something the global community really needs to work on is prevention. If you look at healthcare budgets around the world, around 92–94% is used to treat disease, with only 4–6% being allocated to prevention. A major task for national decision-makers is to increase the support for prevention, but each country also has its own particular issues and many global measures need to be translated into local realities. This is where the national societies and local groups, who understand the local problems, really count, and they can work together with decision-makers to effect change.

There is no overlooking the fact that low-income countries are distinctly disadvantaged due to a lack of access to innovative medicines and technologies. Scientific societies and

Cardiac rehabilitation: Relevant but undervalued

Prof. Paul Dendale

With the emergence of new and effective secondary prevention pharmacological agents, is there still a place for cardiac rehabilitation?

Professor Paul Dendale (Jessa Hospital, Hasselt, Belgium), President of the European Association of Preventive Cardiology (EAPC) and speaker at yesterday's session 'Is cardiac rehabilitation still a must in the 21st century?', thinks there most definitely is. "Meta-analyses[1] have shown that rehabilitation can produce similar reductions in morbidity and mortality as achieved with classical drug treatment, such as aspirin and statins. Rehabilitation programmes also teach patients how to adopt a new way of life, which is important given that about 80% of all cardiovascular disease is related to unhealthy lifestyles. So a combination of cardiac rehabilitation and pharmacotherapy is the best way to reduce the risk of recurrent events." Despite the evidence in favour of cardiac rehabilitation, it remains a much-neglected approach.

"Only 20-50% of patients eligible for cardiac rehabilitation programmes are referred for them."

"If we saw such a low level of prescribing for secondary prevention drugs, there would be an outcry," says Prof. Dendale. "One of the problems is that the evidence relies on meta-analyses rather than large randomised trials. Another issue is that the level of reimbursement varies between countries, with some offering no reimbursement at all. Policy changes are needed if patient access to cardiac rehabilitation programmes is to be increased."

In addition, the long-term benefits of cardiac rehabilitation may be reduced by a lack of adherence. "In the initial stages after an event, patient adherence to classical programme recommendations is good, but in time, many revert to their original, unhealthy lifestyles. This suggests that the standard programme approach needs to be improved."

Prof. Dendale's group conducted a study involving a classical 3-month programme with or without an additional 6-month internet-based, patient-tailored telerehabilitation programme.[2] "Compared with the classical programme, the telerehabilitation programme led to larger improvements in fitness and in health-related quality of life. These types of programmes may also have greater cost-effectiveness." He concludes, "Mobile health may be one way of making cardiac rehabilitation programmes both more effective and more widely available."

1. Oldridge N, et al. Future Cardiol 2019;15:227-249.
2. Frederix I, et al. Eur J Prev Cardiol 2017;24:1708-1717.

Assoziation zwischen «Sahara-Staub-Belastung» und ACS?

Studie aus Spanien (N. Baez Ferrer (La Laguna))

Frage: Assoziation zwischen Staub-Belastung und ACS

….

Conclusions: This negative study, the first to assess the impact of Saharan dust events as a potential trigger in the onset of ACS, **shows that African dust is unlikely to be associated with the incidence of ACS**.

….

Workload adjusted blood pressure response rather than peak systolic blood pressure is associated with increased all-cause mortality in males; results from 7097 treadmill exercise tests (6075)

- Hedmann, Linköping Sweden
- Background: Systolic blood pressure (SBP) is routinely measured during exercise testing (ET) and is in part determined by cardiac output and peripheral vascular resistance. A frequently used threshold for defining hypertensive response to exercise is ≥210 mmHg but this does not account for the fact that SBP is related to workload, via cardiac output. Purpose: To examine the prognostic implications of considering external workload (METs) adjusted SBP response to exercise. Methods: We reviewed all symptom-limited treadmill ET in males between 1987 and 2007 at a single centre (inclusion/exclusion criteria detailed in figure 1A). **SBP was measured standing at rest and at peak exercise. Workload adjusted BP response with exercise (SBP/MET slope) was calculated as ΔSBP/ΔMET. METs were calculated from peak speed and grade according to the standard American College of Sports Medicine (ACSM) formula**. Age-predicted peak METs was calculated as: 18 - 0.15 × age. Ten-year Cox proportional hazard ratios (HR) with 95% confidence intervals were calculated and adjusted as outlined in figure 1B. Results: 7097 subjects were included, of which 1559 (22%) died within 10 years. Survivors were younger (57.2±10.6 y vs. 64.5±10.3 y, p<0.001) and reached higher % of age-predicted METs (97±33% vs. 82±33%, p<0.001). Survivors had higher peak SBP (181±26 vs. 176±27 mmHg, p<0.001) as well as greater ΔSBP (49±22 vs. 42±22 mmHg, p<0.001), while they had lower SBP/MET slope (7.0±4.4 vs. 8.9±6.5 mmHg/MET, p<0.001). A peak SBP ≥210 mmHg was associated with better survival; 10-yr adjusted HR: 0.76 (0.64–0.88, p<0.001). In contrast, a higher SBP/MET slope was associated with increased mortality (table 1). **Conclusion: Workload adjusted blood pressure response to exercise in contrast to peak BP response was associated with increased mortality in male patients referred for ET. Of note, reaching a BP of at least 210 mmHg (suggested to define a hypertensive response to exercise) was associated with a 24% reduction in all-cause mortality.**

Salzkontroverse ein (peruanisches) Kapitel mehr….

- interesting **Peruvian study**, which was done in six rural villages, where they went into the homes took out the **regular salt, sodium chloride, and replaced it with a salt substitute that was rich in potassium**. The goal was to reduce the sodium intake and also to increase the potassium intake.
  - Overall decrease in blood pressure, more pronounced in hypertensives
  - 50% decrease in the risk of new Hypertension

Is exercise- induced cardiac troponin release caused by skeletal muscle injury?

TA. Paana (Naantali, FI)

Background: Cardiac troponins (cTn) are highly sensitive and specific markers for cardiac injury and a key element in the diagnosis of acute coronary syndrome. Strenuous exercise is known to induce increases in cTn, but the causative factors remain ambiguous. It is also equivocal whether exercise induced skeletal muscle injury is associated with cTn elevation. Purpose: **The aim of this study was to identify independent predictors for the rise in cardiac troponin T (cTnT) and I (cTnI) concentration and to focus on the relationship between skeletal muscle injury measured by skeletal troponin I (skTnI) and cTn elevations after a marathon race in a large group of male recreational runners.** Methods: A total of 40 recreational runners participating in the marathon in our city were recruited. **The study included baseline visit (prerace) and immediate post-race sampling. Results: The post-marathon cTnT concentration rose above the reference limit in 38 (95%) participants and the detection limit for cTnI was exceeded in 34 (85%) participants.** Similarly, a 10-fold increase in skTnI concentration was observed and elevated post-race values were seen in all participants. There was no significant correlation between the post-race cTnT or cTnT change and post-race skTnI (Spearman's rho = 0.249, p=0.122, rho = 0.285, p=0.074). However, post-race cTnI and change in cTnI were associated with post-race skTnI (rho = 0.404, p=0.01, rho = 0.460, p=0.003) and creatine kinase (r=0.368, p=0.019) concentration. Subjective exertion or self-reported muscle symptoms did not correlate with post-race cTnT, cTnI or skTnI levels. **Conclusions: Cardiac troponin became abnormal in almost all runners after marathon race. The exercise-induced rise in cardiac troponin I is related to simultaneous release of skeletal troponin I. The mechanism of this association remains uncertain, but clinicians should be cautious when interpreting post-exercise troponin levels without clinical symptoms and signs of myocardial ischemia.**

Leading from the top to combat burnout

Dr. Stéphane Manzo-Silberman

A recent survey suggests that over half of all cardiology physicians are suffering from burnout[1] and the rate is increasing; hence, urgent measures are needed to stop this epidemic from spreading.

"We take care of others, but often do not take enough care of ourselves," says Doctor Stéphane Manzo-Silberman (Hôpital Lariboisière, Université Paris VII, Paris, France). She thinks the main factors related to burnout are individuals' characteristics, (limited) access to support networks and workload. "In younger healthcare professionals, with fewer career responsibilities, personal factors, such as personality and/or family and social support may play a large part in predicting burnout. In those who have progressed up the career ladder, risk factors become more work-burden related as individuals try to juggle clinical practice, additional administrative work and increased research opportunities, often with an imbalance between objectives and resources." Technology, which may be expected to help reduce burnout, is a double-edged sword. "Reasonable use of technology, such as telemedicine, can help to improve organisational aspects and to reduce workload. However, other technologies such as smartphones mean that healthcare professionals are always connected—and expected to be connected—and there are fewer opportunities to take time away from work."

"If we are going to tackle burnout effectively," says Dr. Manzo-Silberman, "we first have to recognise the extent of the problem and realise that everyone is at risk. Secondly, we need to rediscover the human factor, the kindness between colleagues that is disappearing in our fast-paced, competitive world."

Leaders must lead by example.

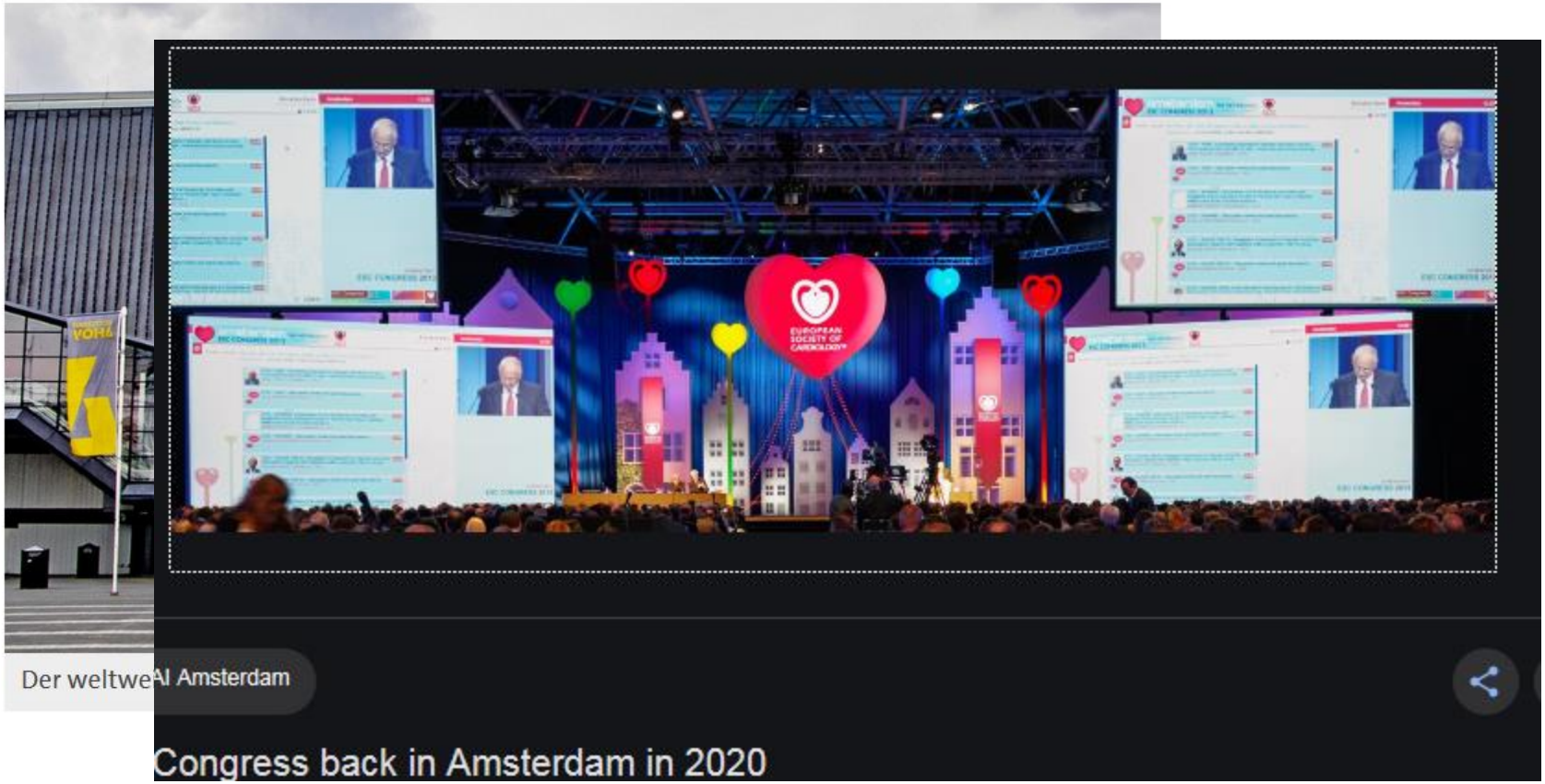
"Leaders can raise awareness of burnout by discussing the issues with their team, organising departmental talks so individuals know how to recognise the signs, and encouraging people to share experiences. Leaders must also understand the highly pressurised environments their teams are working in and make conscious efforts to acknowledge the work of all members and promote support among colleagues. They should not close their eyes to bullying or unfair treatment and should make it clear that such behaviour will not be tolerated. Leaders must look at themselves, at their own style of leadership, to make sure they are helping their team and are not, perhaps unknowingly, being part of the problem themselves."

1. Peckham C. Medscape cardiologist lifestyle report 2017; Race, ethnicity, bias and burnout.

Nächster ESC: Amsterdam

Stand: 02.09.19 11:51 Uhr

Alle Infos zum ESC 2020 in den Niederlanden



Der weltwe

Al Amsterdam

Congress back in Amsterdam in 2020