

Classification of sports

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Increasing Static Component</p> <p>High >50% MVC</p> <p>Moderate 20-50% MVC</p> <p>Low <20% MVC</p>	<p>Bobsledding/Luge*†, Field events (throwing), Gymnastics*†, Martial arts*, Sailing, Sport climbing, Water skiing*†, Weight lifting*†, Windsurfing*†</p>	<p>Body building*†, Downhill skiing*†, Skateboarding*†, Snowboarding*†, Wrestling</p>	<p>Boxing*, <u>Cycling*†, Decathlon, Rowing, Speed skating*†, Triathlon*†</u></p>
	<p>Archery, Auto racing*†, Diving*†, Equestrian*†, Motorcycling*†</p>	<p>American football*, Field events (jumping), Figure skating*, Rodeoing*†, Rugby*, Running (sprint), Surfing*†, Synchronized swimming†</p>	<p>Basketball*, Ice hockey*, Cross-country skiing (skating technique), Lacrosse*, Running (middle distance), Swimming, Team handball</p>
	<p>Billiards, Bowling, Cricket, Curling, Golf, Riflery</p>	<p>Baseball/Softball*, Fencing, Table tennis, Volleyball</p>	<p>Badminton, Cross-country skiing (classic technique), Field hockey*, Orienteering, Race walking, Racquetball/Squash, Running (long distance), Soccer*, Tennis</p>
	<p>Low <40% Max O₂</p>	<p>Moderate 40-70% Max O₂</p>	<p>High >70% Max O₂</p>
<p style="text-align: center;">Increasing Dynamic Component</p>			

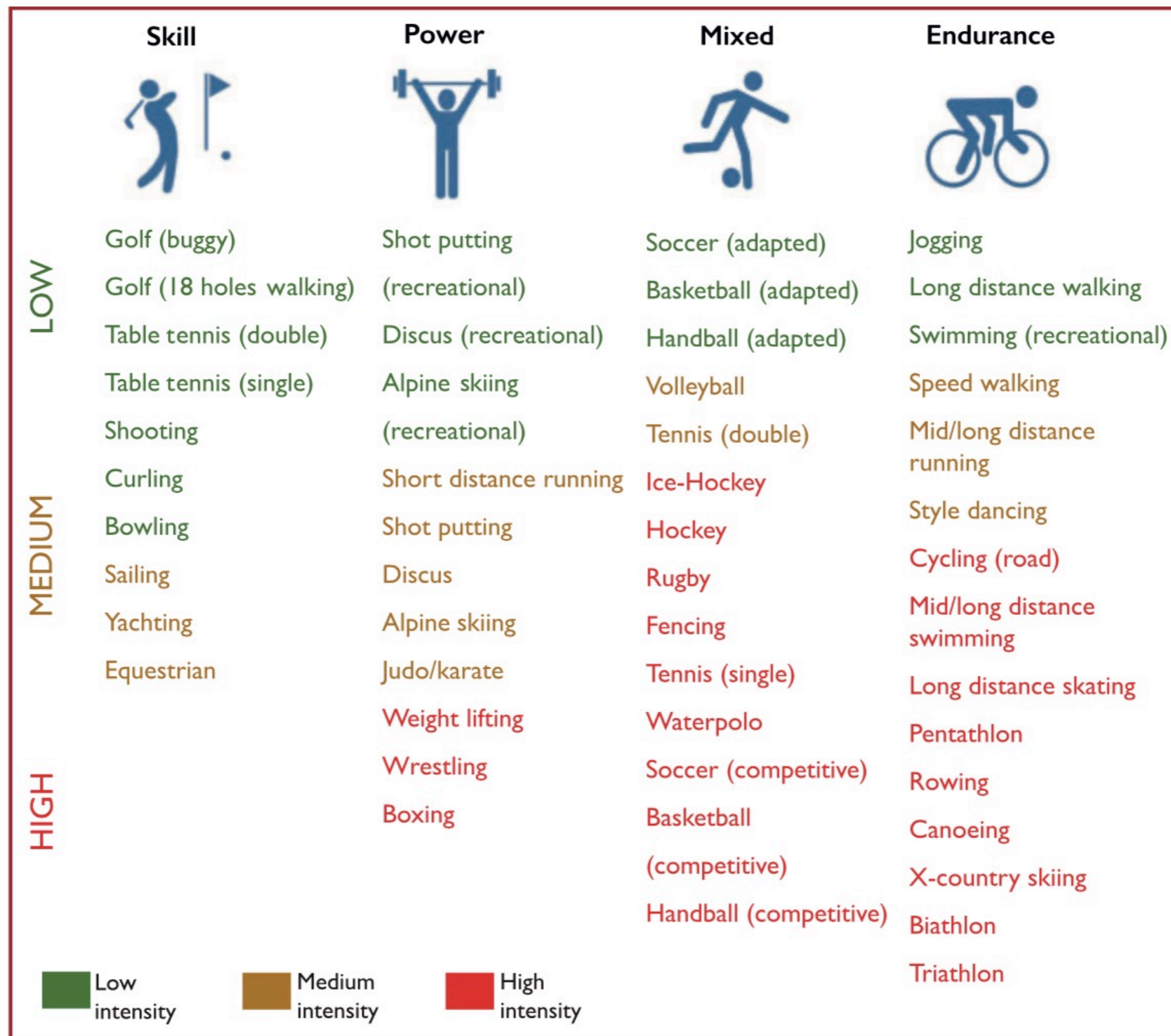


Figure 2 Sporting discipline in relation to the predominant component (skill, power, mixed, and endurance) and intensity of exercise. Intensity of exercise must be individualized after maximal exercise testing, field testing and/or after muscular strength testing (Table 2).

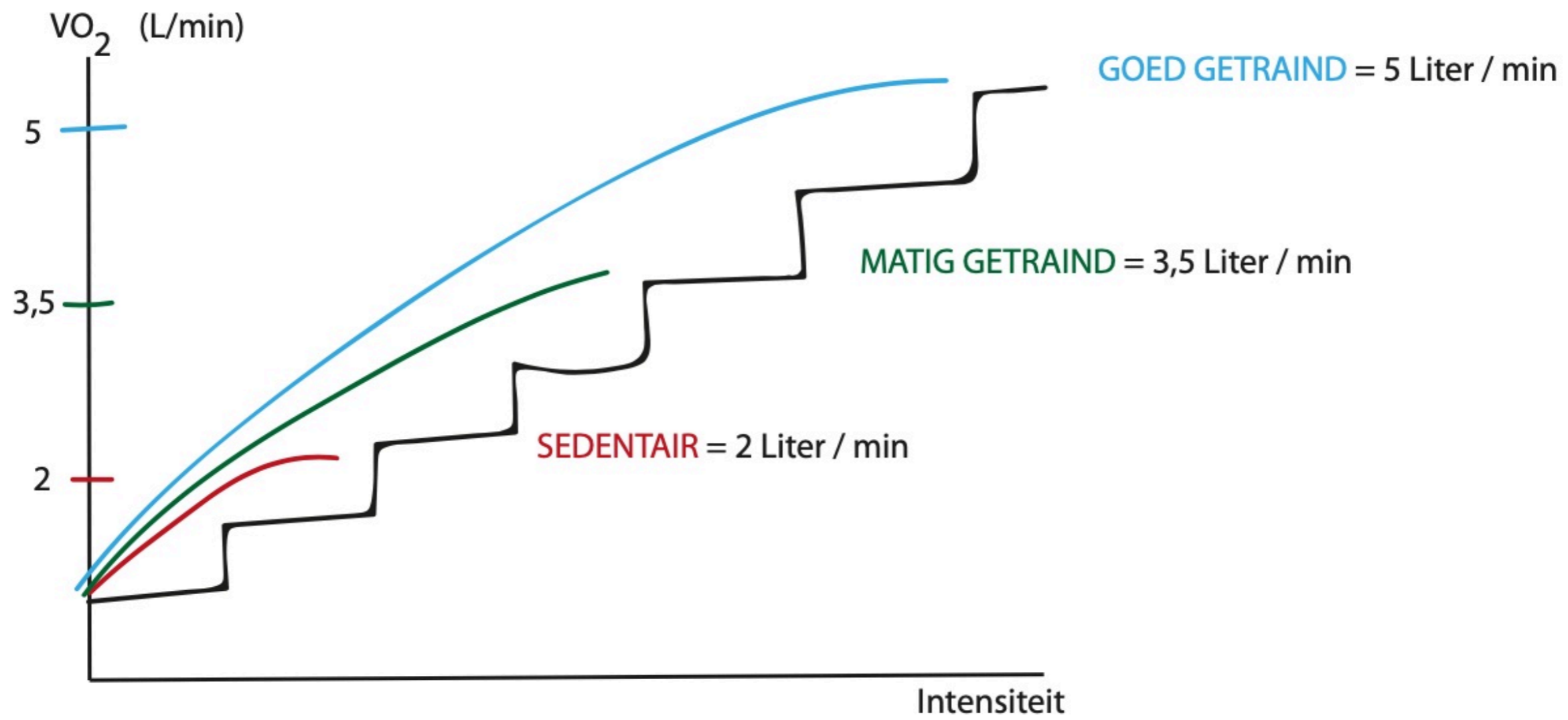
Table 4 Indices of exercise intensity for endurance sports from maximal exercise testing and training zones

Intensity	VO_{2max} (%)	HR_{max} (%)	HRR (%)	RPE Scale	Training Zone
Low intensity, light exercise ^a	<40	<55	<40	10–11	Aerobic
Moderate intensity exercise ^a	40–69	55–74	40–69	12–13	Aerobic
High intensity ^a	70–85	75–90	70–85	14–16	Aerobic + lactate
Very high intense exercise ^a	>85	>90	>85	17–19	Aerobic + lactate + anaerobic

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HR_{max} = maximum heart rate; HRR = heart rate reserve; RPE = rate of perceived exertion; VO_{2max} = maximum oxygen consumption.

^aAdapted from refs ^{84,85} using training zones related to aerobic and anaerobic thresholds. Low-intensity exercise is below the aerobic threshold; moderate is above the aerobic threshold but not reaching the anaerobic zone; high intensity is close to the anaerobic zone; and very intense exercise is above the anaerobic threshold. The duration of exercise will also largely influence this division in intensity.

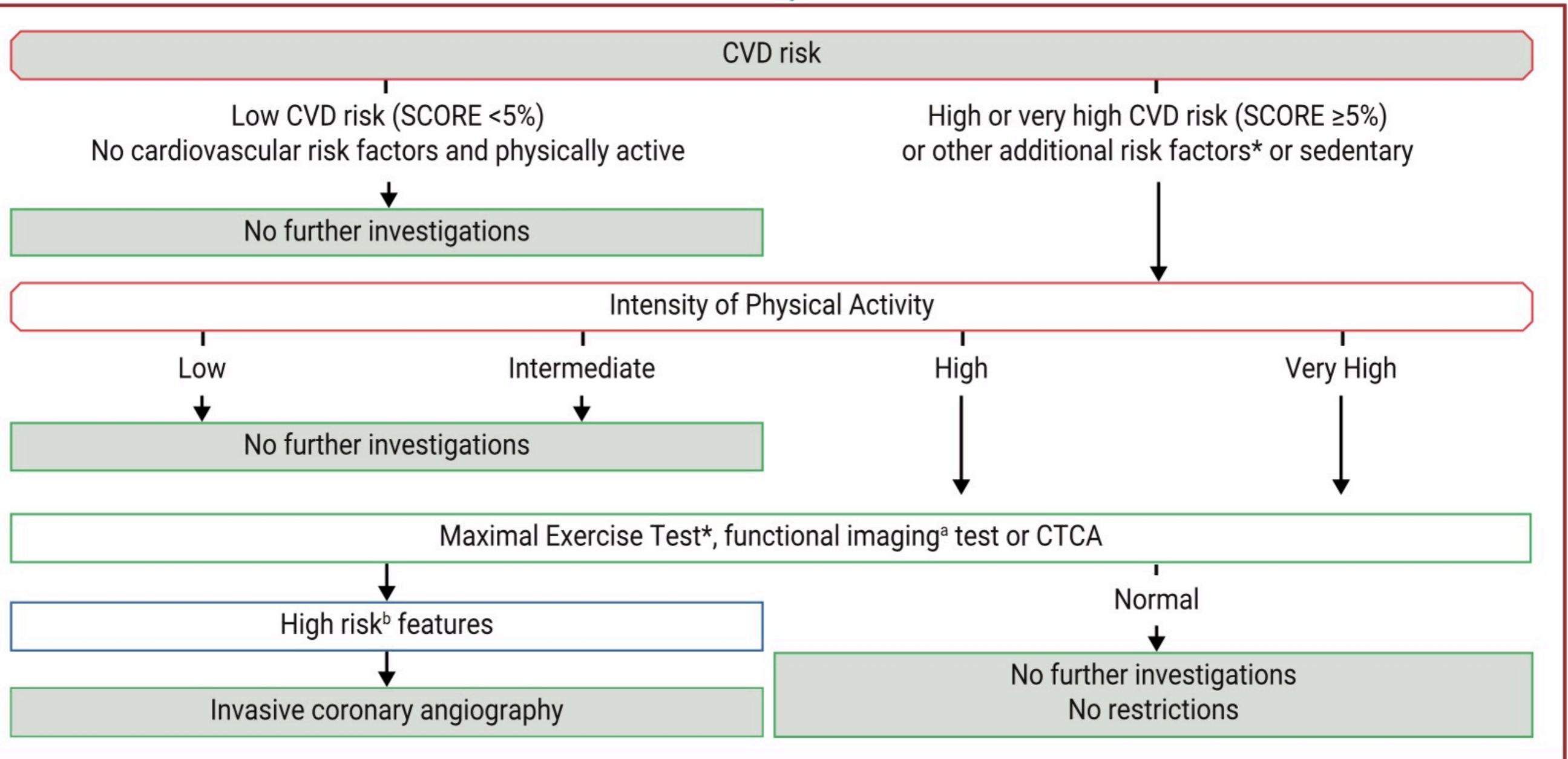


Keuring : Het Lausanne Protocol

Het Lausanne protocol bestaat uit:

- Een vragenlijst over uzelf en uw familie
- Lichamelijk onderzoek (incl. bloeddrukmeting)
- Een 12-kanaal rust-ECG vanaf puberteit
- Veneto : van 3.6 (1979 -80) naar 0.4/1000000 (2003-4) met jaarlijkse screening.

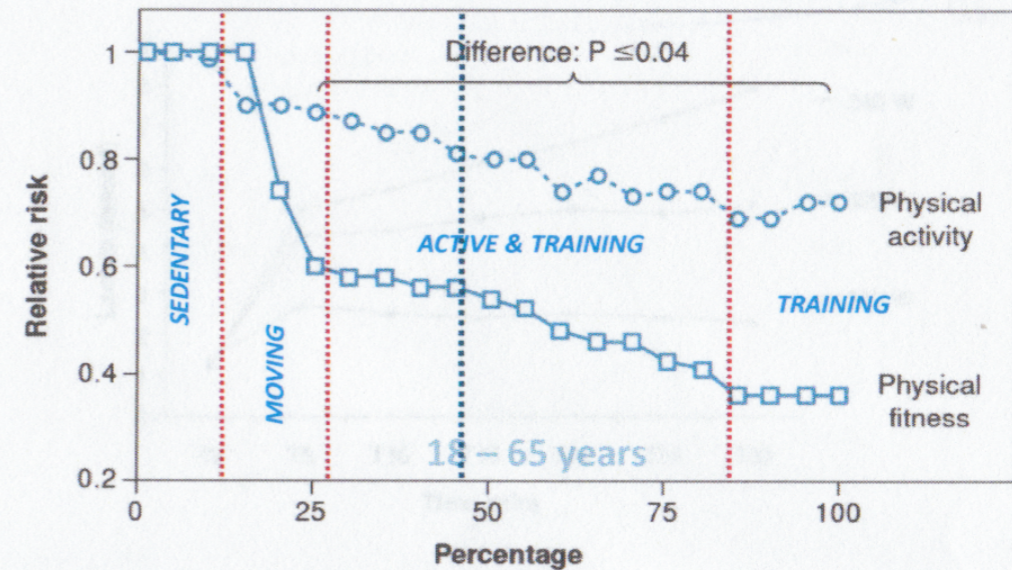
senioren en sporten



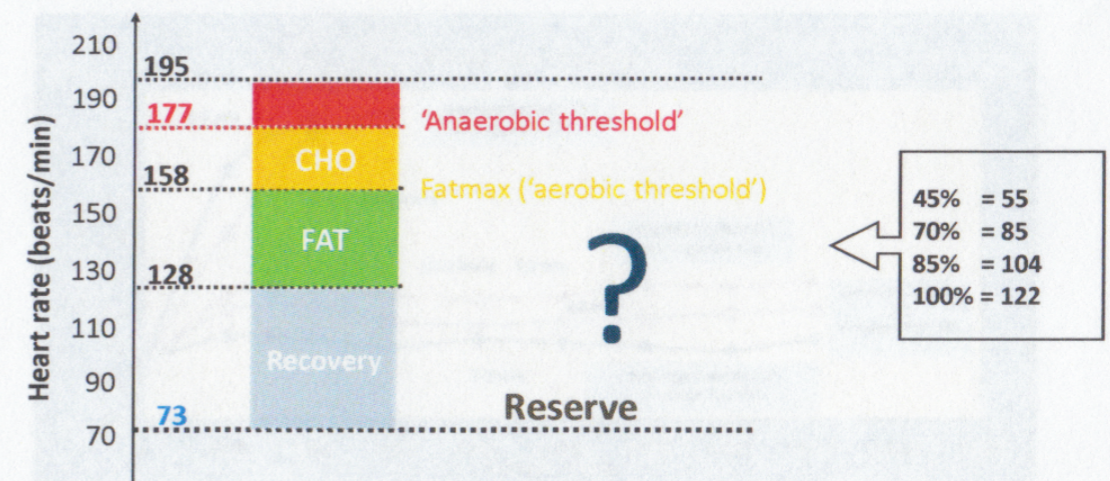
Aanbeveling

- Intens Sporten is uiteraard gezond
- Ken je vetdrempel, koolhydratendrempel, maximale pols
- Gebruikt hartslagmeter
- Voorkamerarrhythmieën meest voorkomende cardiale verwikkeling bij wielrenners maar behandelbaar

Physical activity, fitness, and CVD



Karvonen 'training-zones'



Sporten en ouderen

Gevaren

- Arrhythmien, verhoogde bloeddruk en myocardischaemie
- Muskuloskeletale fracturen en kwetsuren
- Spierpijn en gezwollen gewrichten
- Verhoogd valrisico

Age-related moderate effort activities

- walking
- water aerobics
- ballroom and line dancing
- riding a bicycle on level ground or with few hills
- doubles tennis
- pushing a lawn mower
- canoeing
- volleyball

Age-related intense effort activities

- jogging or running
- aerobics
- swimming fast
- riding a bicycle fast or on hills
- singles tennis
- football
- hiking uphill
- energetic dancing
- martial arts

Muscle-strengthening activities

- carrying or moving heavy loads
- groceries activities that involve stepping and jumping
- dancing
- heavy gardening, such as digging or shovelling
- exercises that use your body weight for resistance, such as push-ups or sit-ups
- yoga
- pilates
- lifting weights

Inducible myocardial ischaemia

No

Yes

Long standing CCS with no inducible myocardial ischaemia

Invasive coronary angiography

Asymptomatic
LVEF >50%
No exercise induced arrhythmias

Risk of Coronary Lesion (s)

LOW RISK LESION

HIGH RISK LESION

>50% LM stenosis*
>50% stenosis proximal LAD*
2-3 vessel disease with >50% stenosis*
>90% lesion in a vessel

Asymptomatic
LVEF >50%
No exercise induced arrhythmias

LOW RISK

Revascularisation

May participate in intensive exercise programmes although some restrictions may apply

Revascularisation not possible or on-going symptoms/ ischaemia despite medical therapy

Revascularisation possible

Asymptomatic
LVEF >50%
No exercise induced arrhythmias

LOW RISK

May participate in skill competitive sport and mild to moderate intensity leisure sport

May participate in intensive exercise programmes although some restrictions may apply

Casus I Beschrijving van de

- 58-jarige blanke man
- Type 2 diabetes gediagnosticeerd (T2DM)
- Geen gekende cardiovasculaire aandoening

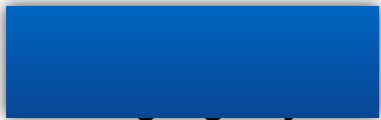
Reden voor consult

- Sporza Mont Ventoux en vraag attest
- CV risicoreductie

ORIGINAL ARTICLE

Large-Scale Assessment of a Smartwatch to Identify Atrial Fibrillation

Marco V. Perez, M.D., Kenneth W. Mahaffey, M.D., Haley Hedlin, Ph.D., John S. Rumsfeld, M.D., Ph.D., Ariadna Garcia, M.S., Todd Ferris, M.D., Vidhya Balasubramanian, M.S., Andrea M. Russo, M.D., Amol Rajmane, M.D., Lauren Cheung, M.D., Grace Hung, M.S., Justin Lee, M.P.H., Peter Kowey, M.D., Nisha Talati, M.B.A., Divya Nag, Santosh E. Gummidipundi, M.S., Alexis Beatty, M.D., M.A.S., Mellanie True Hills, B.S., Sumbul Desai, M.D., Christopher B. Granger, M.D., Manisha Desai, Ph.D., and Mintu P. Turakhia, M.D., M.A.S., for the Apple Heart Study Investigators*



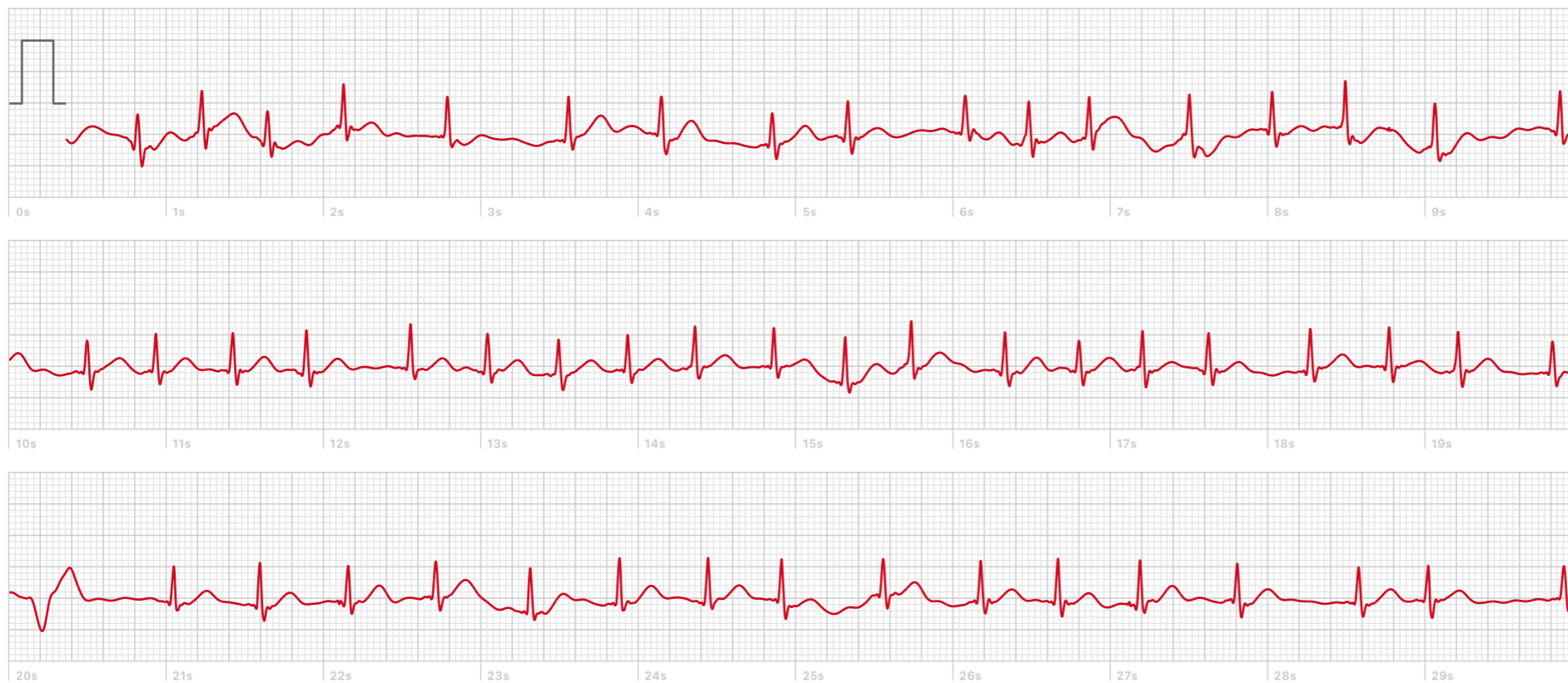
Date of Birth: 27 May 1964 (Age 58)

Recorded on 24 Apr 2022 at 14:20

Atrial Fibrillation — ❤️ 107 BPM Average

This ECG shows signs of AF and a high heart rate.

If this is an unexpected result, or your heart rate stays high, you should talk to your doctor soon.



25 mm/s, 10 mm/mV, Lead I, 512Hz, iOS 15.5, watchOS 8.4.1, Watch6,6, Algorithm Version 2 — The waveform is similar to a Lead I ECG. For more information, see Instructions for Use.

Aanbevelingen



The American Heart Association Recommendations for Physical Activity in Adults

At least **30** minutes of moderate-intensity aerobic activity



At least **5** days per week for a total of **150** minutes



OR

At least **25** minutes of vigorous aerobic activity



At least **3** days per week for a total of **75** minutes



or a combination of the two

AND

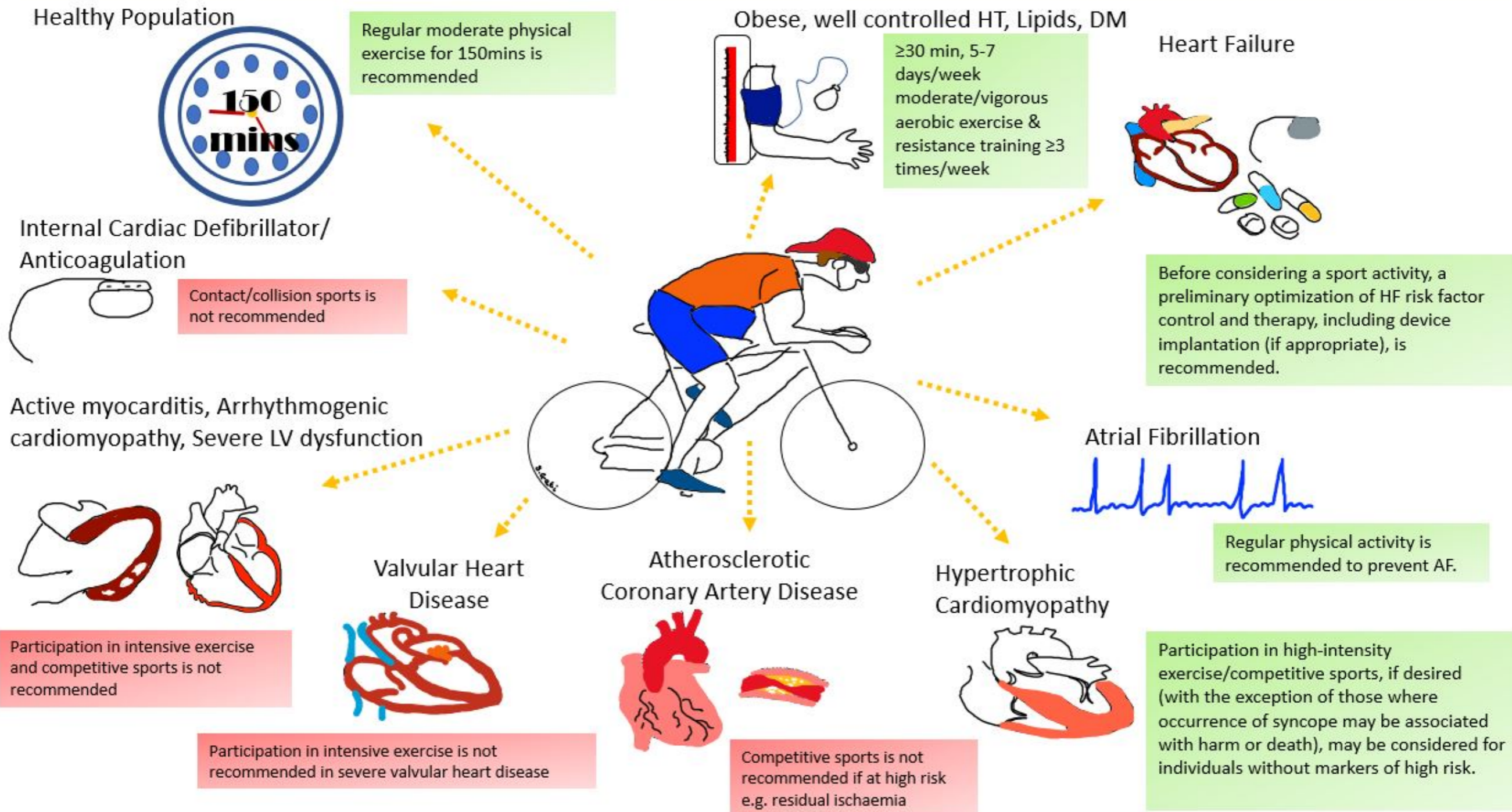
Moderate to **HIGH INTENSITY** muscle-strengthening activity

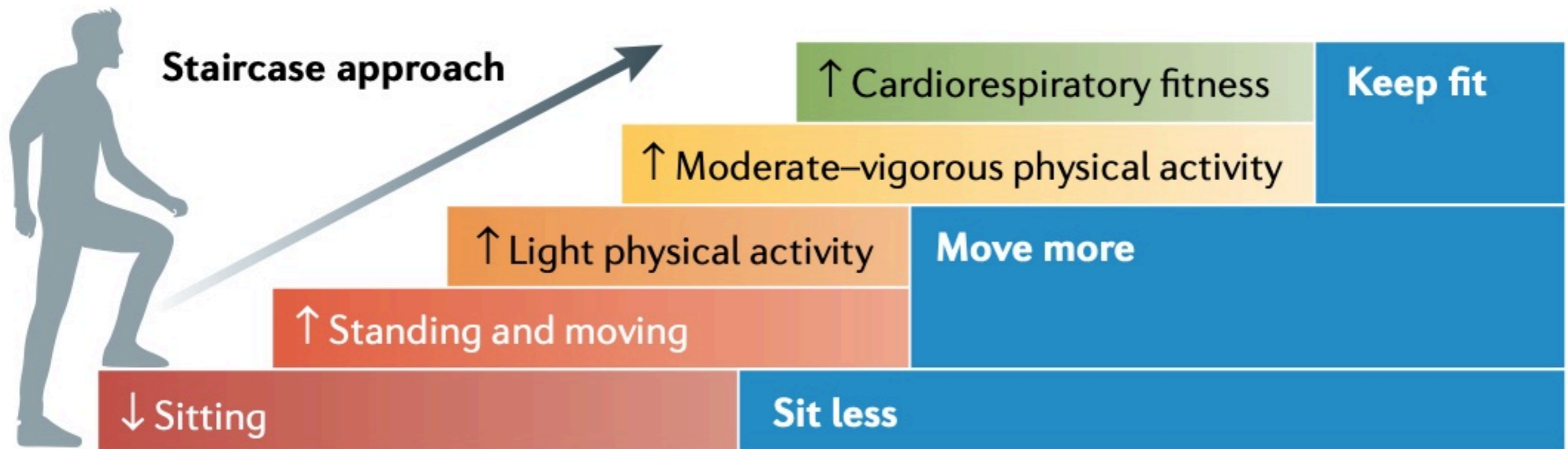


At least **2** days per week for additional health benefits

CV ziekte en sporten

Take Home Messages from the ESC Guidelines on Sports Cardiology and Individuals with Cardiovascular Disease





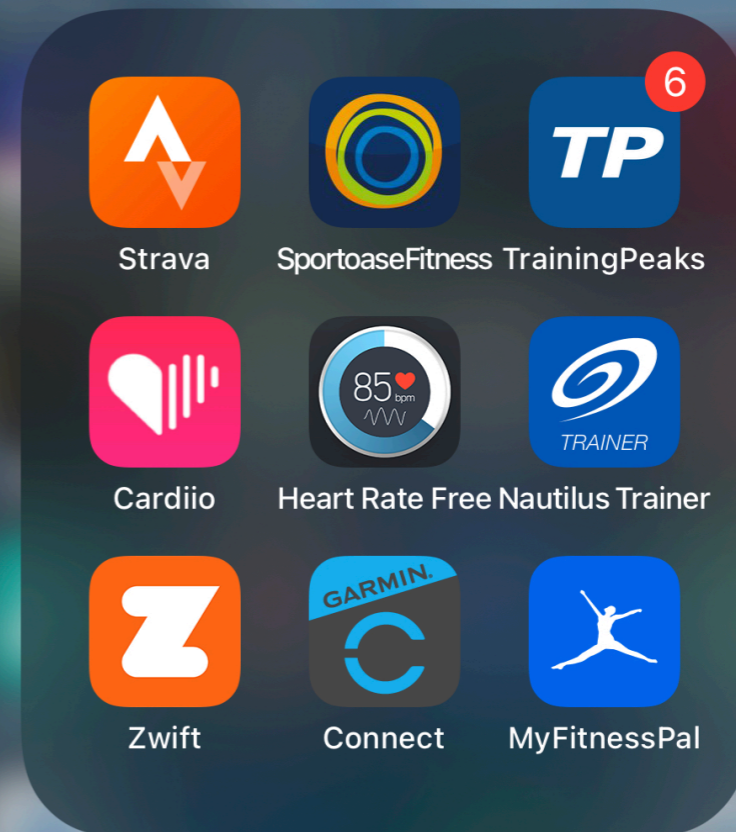
“Sit less and moving more strategy”

Stapsgewijze aanpak

Hoe motiveren

- Club verband sociaal
- App's
- Smartwatch , ook voor ECG detectie
- Health club
- Maak sporten aangenaam
- Rollen fietsen

Gezondheid



Smartwatch



- Withings, I watch, Samsung

Hoeveel moet u bewegen

- 150 minuten matig te bewegen of 75 Minuten intensieve beweging
- 300 minuten per week voor extra gezondheidsvoordelen
- 3 dagen per week
- 2-3 x week spierversterkend activiteiten
- Spraaktest
- Wandelen : 4-5 km /uur
- Fietsen : 16 km per uur
- Yoga en zwemmen en dansen
- Joggen , interval met hoge intensiteit
- Lactaattest