Formation continue, société neuchâteloise de médecine
22 avril 2026

Santé cardio-vasculaire de la femme

Sarah Hugelshofer, MD MER

Département cœur-vaisseaux

CHUV

Conflits d'interêts potentiels: (soutien financer entièrement versé au CHUV)

Consultante pour : Pfizer, Bayer, Alnylam, Astra Zeneca

Soutien pour congrès : Pfizer, Alnylam, Daiichi Sankyo

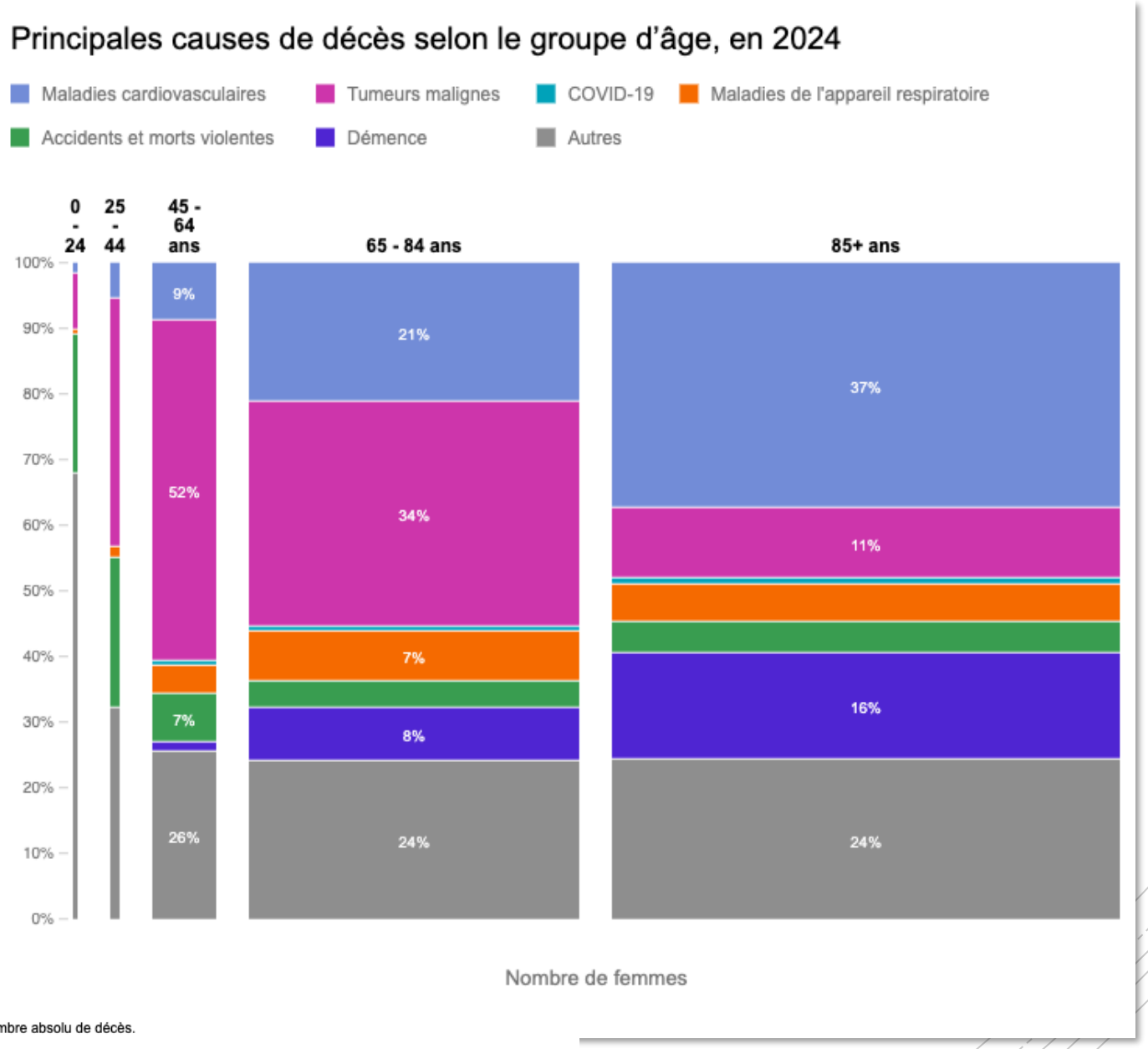
Agenda

- Pourquoi c'est important ?
- Epidémiologie
- Facteurs de risque cardiovasculaire de la femme
- Maladies cardio-vasculaires de la femme
- Messages clés

Pourquoi c'est important ?

- 1 femme sur 3 meurt d'une maladie cardio-vasculaire en Suisse
- Les maladies cv et les facteurs de risque sont sous-diagnostiqués et sous-traités (femme>homme)
- La connaissance des facteurs de risque spécifiques aux femmes est nécessaire pour le dépistage et l'évaluation du risque

Epidémiologie



Les surfaces sont proportionnelles au nombre absolu de décès.

État des données: 22.12.2025
Source: OFS – Statistique des causes de décès (CoD)

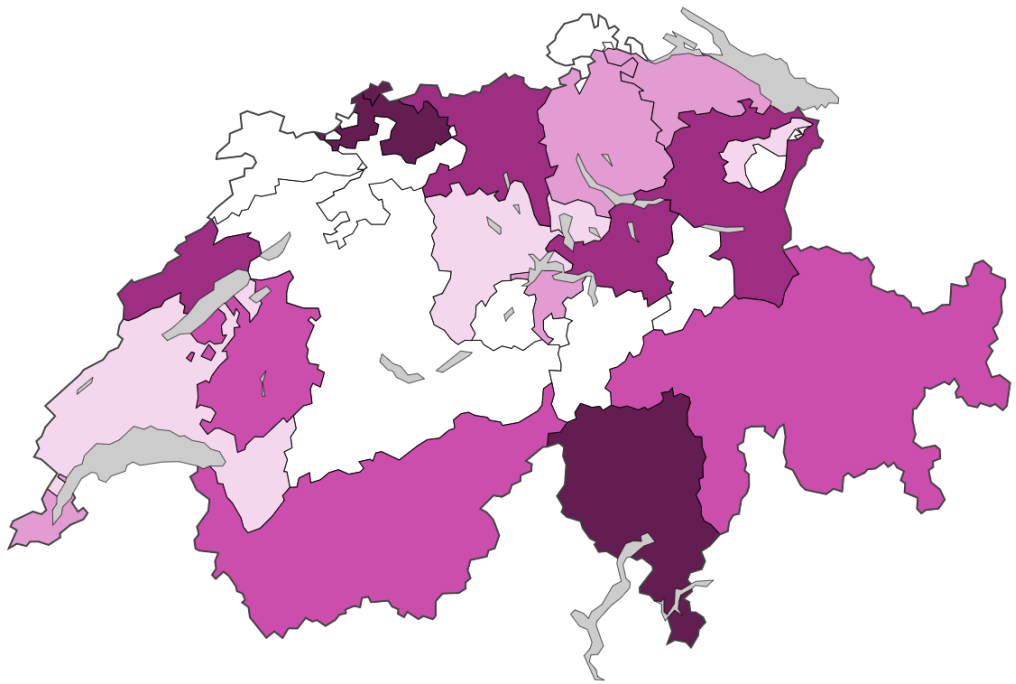
gr-f-14.03.04-2024

Maladies cardiovasculaires: prévalence (âge: 15+)

Maladies cardiovasculaires

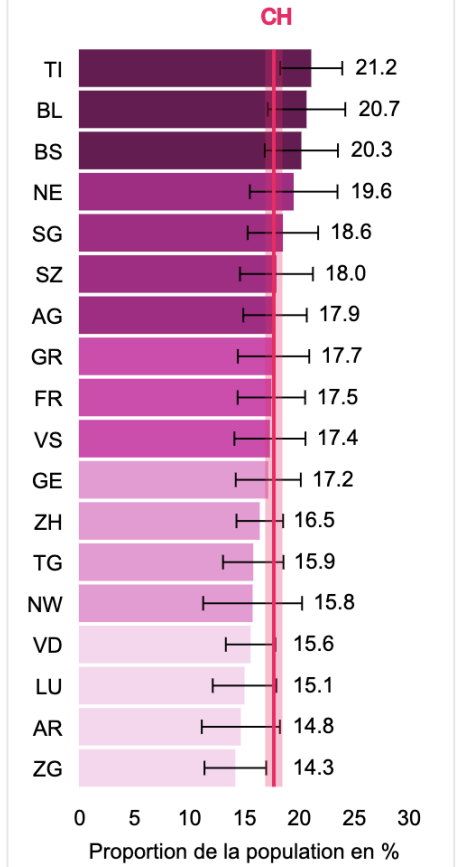
Proportion de la population vivant en ménage privé en %

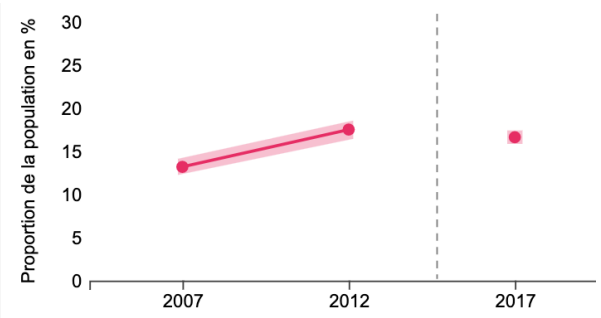
2022 – Femmes



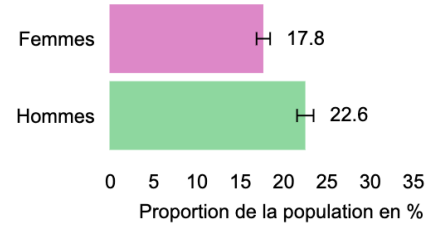
Proportion de la population en % (en quantiles)

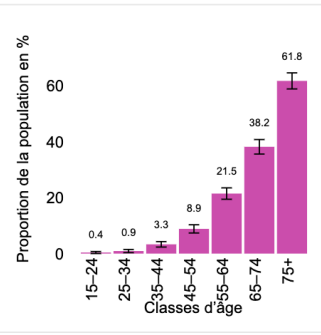
Les cantons n'ayant pas augmenté leur échantillon ne sont pas affichés (en blanc).



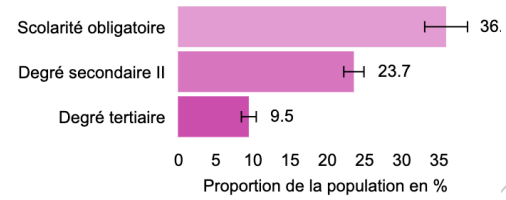


Sexe



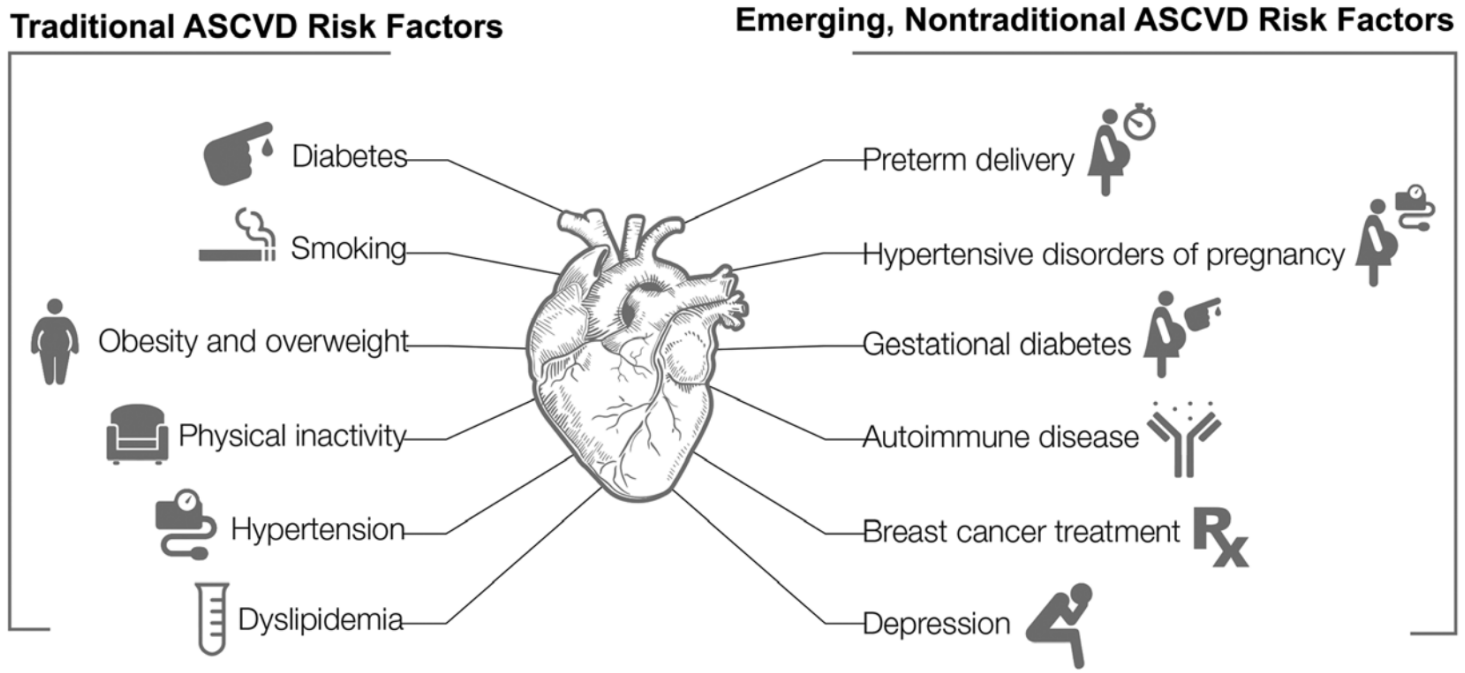


Niveau de formation (âge: 25+)



Source: OFS – Enquête suisse sur la santé (ESS)

Facteurs de risque cardiovasculaire des femmes



Garcia et al., Circulation Research, 2016

Facteurs de risque cardiovasculaire des femmes

Arrêter de fumer
avant 40 ans élimine 90% du risque
avant 30 ans élimine ≈ 100% du risque
de décès ultérieur par maladie cardiovasculaire

Pirie K et al. Lancet 2013

Risk Factor	Sex-Based Differences	Recommendation
Diabetes mellitus	DM: women with DM have a 3-fold excess risk of fatal CAD compared with nondiabetic women.	Both women and men with DM should have aggressive management of their CVD risk factors. Observational studies suggest that women may require greater frequency/intensity of physical activity than men to reduce CVD events.
	MI: earlier occurrence and higher mortality in diabetic women compared with diabetic men. Lower revascularization rates in diabetic women compared with diabetic men.	
	HF: diabetic women have a higher risk of developing HF compared with diabetic men.	
	Stroke: DM is a stronger risk factor for stroke in women compared with men.	
	PAD: DM is a stronger risk factor for the development of claudication in women compared with men. Decreased long-term survival in women undergoing revascularization and increased postsurgical mortality are seen in diabetic women with PAD compared with diabetic men with PAD.	
Hypertension	Higher prevalence of HTN in women over age 60 than in men.	Encourage optimal BP through diet, exercise, and avoidance of excess alcohol and sodium.
	Less well controlled in women than men.	Pharmacotherapy is indicated when blood pressure is >140/90 mm Hg.
Dyslipidemia	Among women, dyslipidemia has the highest PAR at 47.1%, compared with all other known risk factors for CVD.	Statins are equally effective for secondary CVD prevention in both men and women; however, statins may contribute to a greater likelihood of developing DM and myalgias in women. Statins are recommended for primary prevention in women; however, randomized trial evidence in women is limited.
	Atheroma regression and LDL lowering may be even greater among women on statins than in men.	
Obesity	The impact of obesity on the development of CAD appears to be greater in women than in men. In the Framingham Heart Study, obesity increased the risk of CAD by 64% in women compared with 46% in men.	Women should maintain or lose weight through an appropriate balance of physical activity and diet. Women who need to lose weight should be advised to accumulate a minimum of 60 to 90 min of at least moderate-intensity physical activity preferably all days of the week.
Physical inactivity	The prevalence of inactivity and sedentary behaviors is higher among women than men.	Overwhelming evidence indicates that regular physical activity is one of the most powerful health-promoting practices that clinicians can recommend for patients.
		Women should be advised to accumulate at least 150 min/wk of moderate exercise, 75 min/wk of vigorous exercise, or an equivalent combination.
Smoking	In a recent meta-analysis by Huxley et al, it was reported that in all age groups with the exception of the youngest (30–44 y), women had a significant 25% increased risk for CAD conferred by cigarette smoking compared with men	Smoking is associated with a decade of lost life, and cessation reduces that loss by about 90%.
		Women should be advised not to smoke and to avoid environmental tobacco smoke. Provide counseling at each encounter, nicotine replacement, and other pharmacotherapy/behavioral therapy as indicated.

80% à 80 ans!

Garcia et al., Circulation Research, 2016

Dépistage dyslipidémie

- 50 ans chez les femmes, ou ménopausées
- lors de l'instauration d'une contraception orale chez la femme en âge de procréer
- en cas d'autres FDR CV : le tabagisme, le diabète, la sédentarité, l'obésité et l'HTA
- en cas de situation à risque, indépendamment de l'âge et du sexe

Traitement dyslipidémie

Risque GSLA (10 ans)	Seuil pour statine	Objectif LDL-C cible
Faible (<2.5% <50a / <5% ≥50a)	**Pas de statine**	Aucun
Intermédiaire (2.5-7.5% <50a / 5-10% ≥50a)	**LDL-C ≥ 3.4 mmol/L**	**< 3.0 mmol/L**
Élevé (≥7.5% <50a / ≥10% ≥50a)	**LDL-C ≥ 2.6 mmol/L**	**< 2.5 mmol/L**

- **1. Calculer le risque CV global (GSLA/AGLA-score)**
- Utiliser le **Calculateur GSLA** :
- Âge 20-69 ans, sans diabète, sans antécédent CV
- Paramètres : âge, sexe, tabagisme, PA systolique, cholestérol total, HDL, antécédents familiaux

- **2. Identifier la catégorie de risque et le seuil LDL-C**

- **3. Chez les femmes : rehausser si facteurs spécifiques**
- **Reclasser vers le haut** si :
- Prééclampsie, diabète gestationnel, accouchement prématuré
- Ménopause précoce (<45 ans), SOPK
- Antécédents familiaux précoces

Traitement de la dyslipidémie

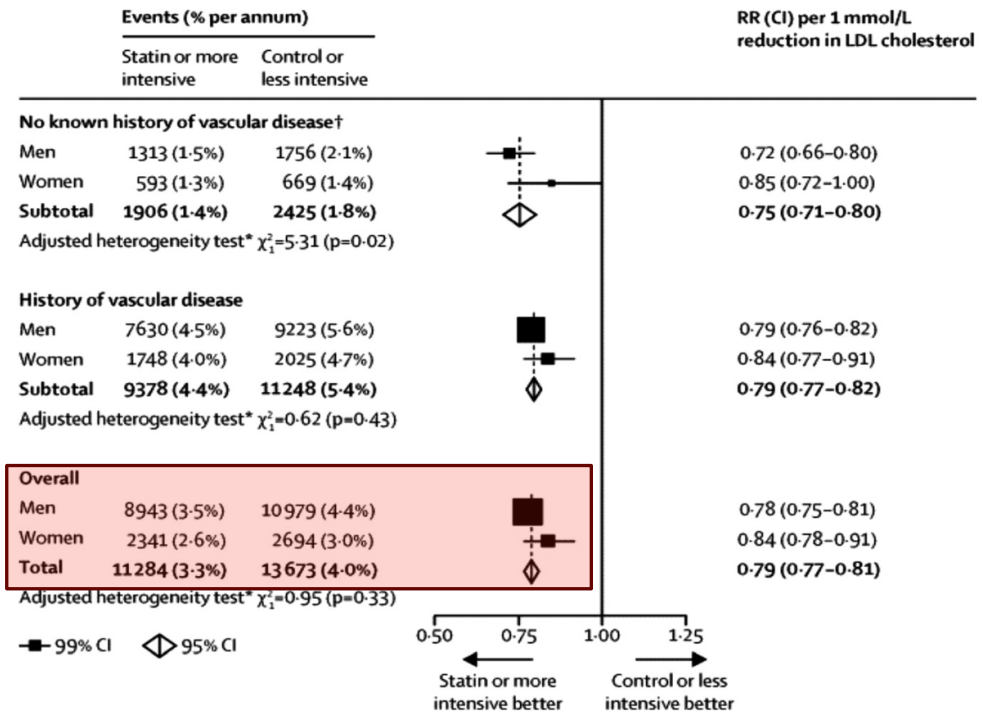
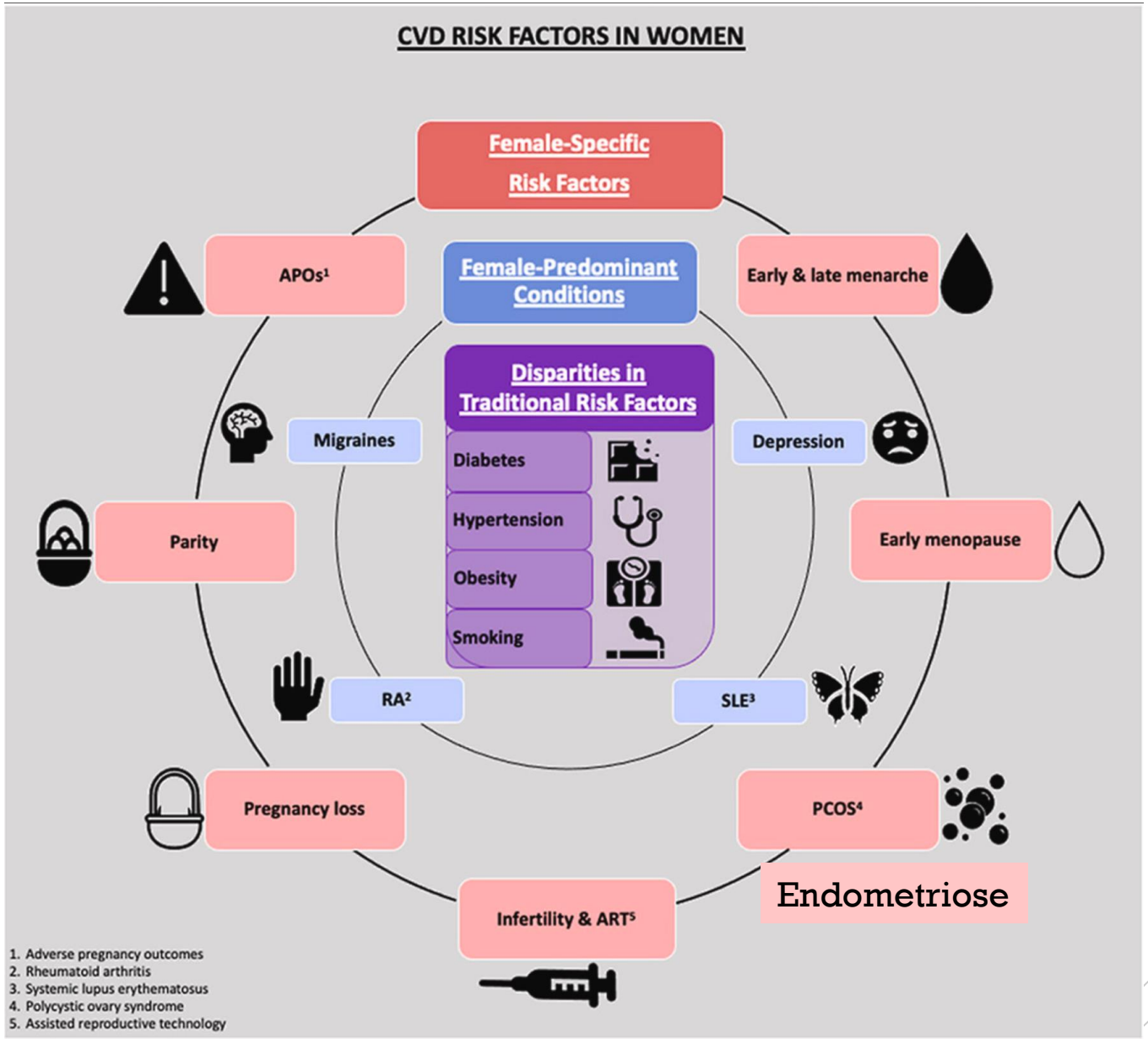


Figure 4. Effects on major vascular events per 1.0 mmol/L reduction in low-density lipoprotein (LDL) cholesterol, subdivided by history of vascular disease and sex. Proportional reduction in major vascular events per 1.0 mmol/L reduction in LDL cholesterol was similar for men and women irrespective of the baseline level of atherosclerotic cardiovascular disease (ASCVD) risk or subtype of ASCVD outcome assessed. The results were slightly more favorable for men than for women (*P*, heterogeneity by sex <0.05). Reused with permission from the Cholesterol Treatment Trialists (CTT) Collaboration.[137]

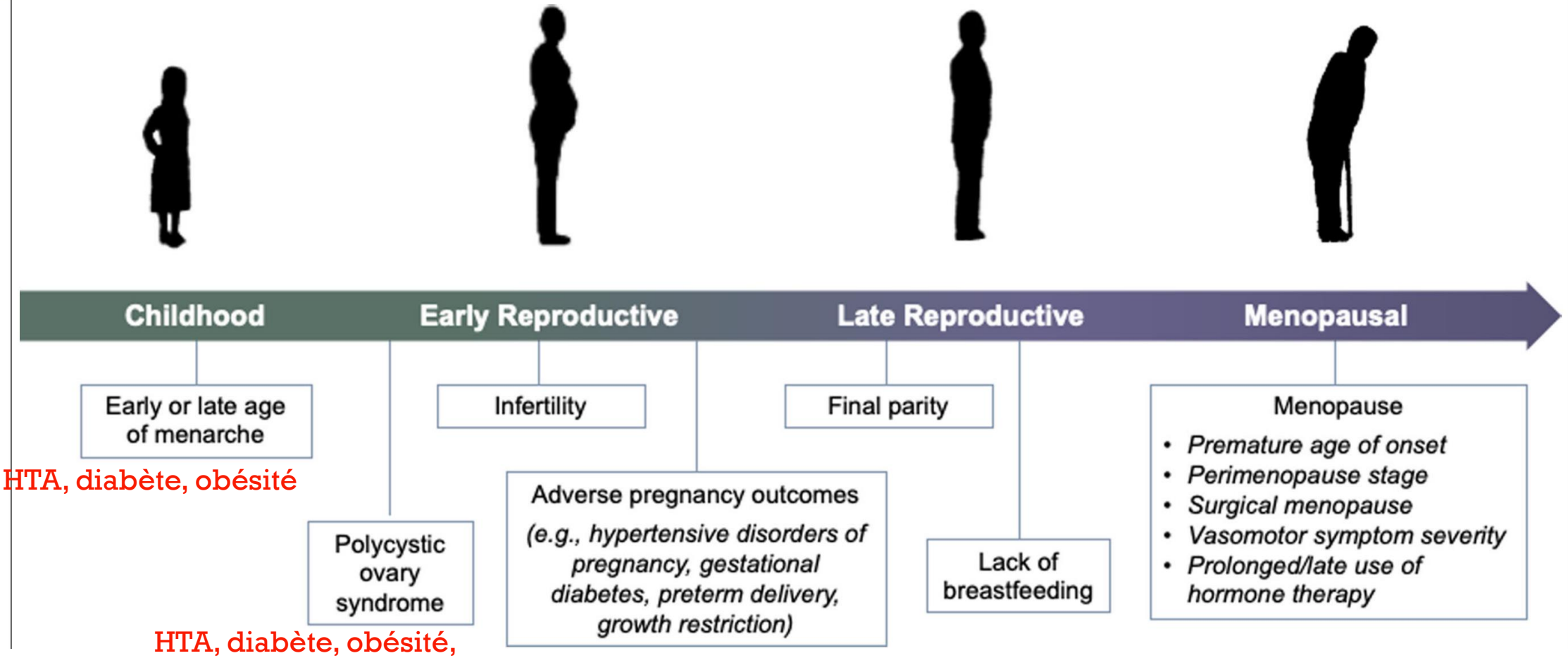
Garcia et al., Circulation Research, 2016

Facteurs de risque cardiovasculaire des femmes



Rajendran et al., Atherosclerosis, 2024

Figure 1. Key reproductive exposures associated with future risk of cardiovascular disease in women. Key stages of a woman's reproductive history may influence or reveal short- and long-term... CLOSE

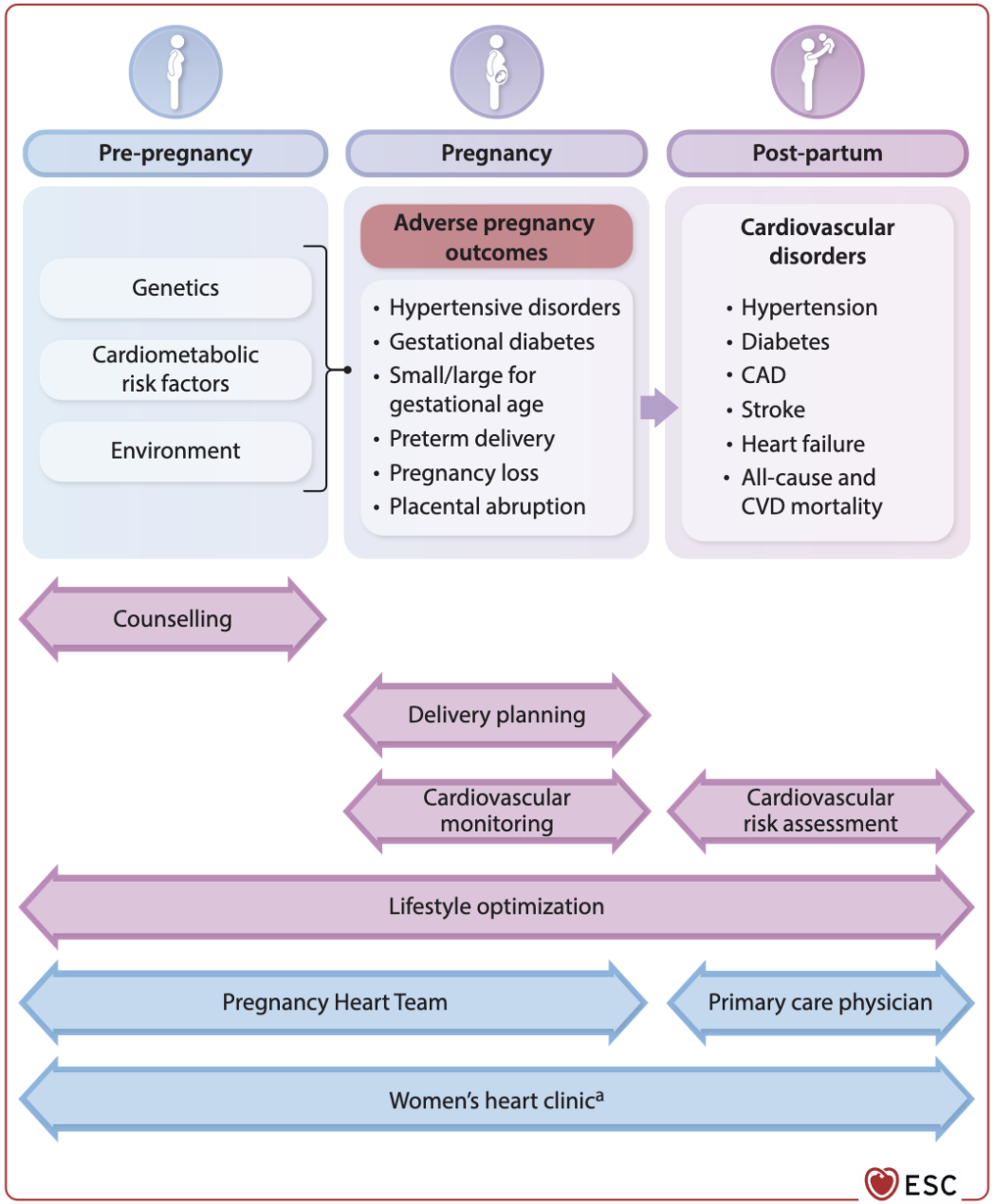


HTA, diabète, obésité

HTA, diabète, obésité, dyslipidémie & maladie cv + 30%

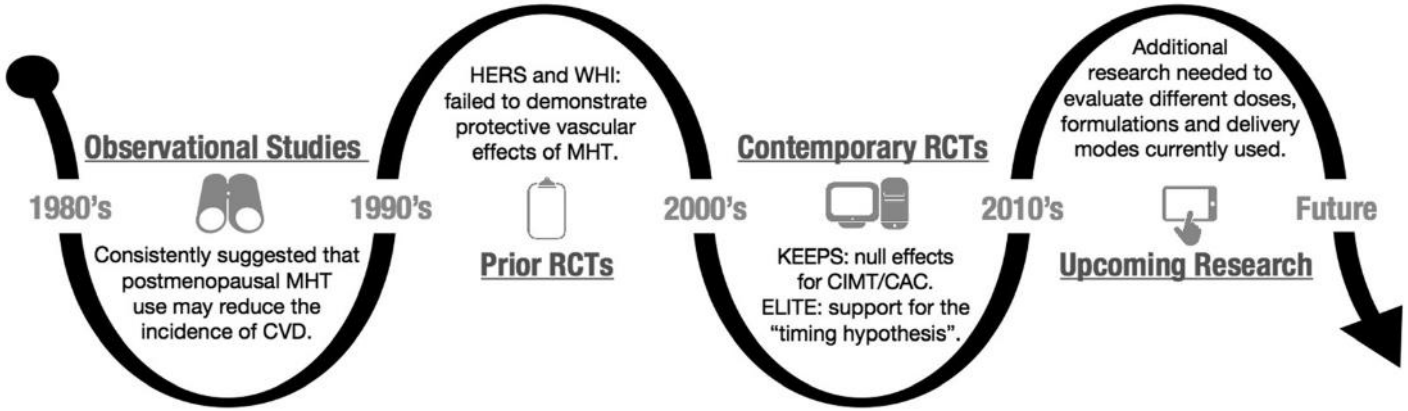
O'Kelly et al. Circulation Research, 2022

Evènements durant la grossesse



ESC Recommendations, EHJ, 2021

Substitution hormonale



Garcia et al., Circulation Research, 2016

Substitution hormonale

1. Evaluate age, time since menopause, and symptoms

<10 year from final menstrual cycle, <60 years old, and bothersome vasomotor symptoms

2. Perform ASCVD risk assessment and exclude HT contraindications

ASCVD risk factors

- Hyperlipidemia
- Hypertension
- Diabetes
- Family history of premature CVD in first-degree relative (men <55 or women <65 years of age)
- Obesity (BMI >30 kg/m^2)
- Physical inactivity
- Cigarette smoking
- Coronary calcification (moderate risk: CAC 1-99; high risk: CAC >100)
- History of preeclampsia
- History of systemic autoimmune collagen-vascular disease (e.g., lupus, rheumatoid arthritis)

Contraindications to systemic HT:

Coronary heart disease, stroke, TIA
Breast or endometrial cancer
History of pulmonary embolus, venous thrombosis or clotting disorder
Active liver disease
Undiagnosed abnormal vaginal bleeding

3. Evaluate risk category

May consider HT	***May consider HT, transdermal formulation***	***Not recommended to use HT:***
ASCVD risk <5% (low risk) and ≤1 CVD risk factor	ASCVD risk 5-10% or ASCVD risk <5% but ≥2 CVD risk factors	Age ≥60 or >10 years since menopause onset or ASCVD risk >10%

4. Ensure routine follow-up with re-evaluation of risks and benefits

O'Kelly et al. Circulation Research, 2022

Maladie coronarienne

- Apparition plus tardive chez la femme (CAVE : radiothérapie sein G)
- Symptomatologie plus souvent atypique
- Atteinte des petits vaisseaux (INOCA = ischemia no obstructive coronary artery disease), dissection / spasmes
- Prise en charge tardive et sous-traitement – moins bon pronostic après STEMI

Garcia et al., Circulation Research, 2016

Syndrome coronarien aigu – décès d'IMA

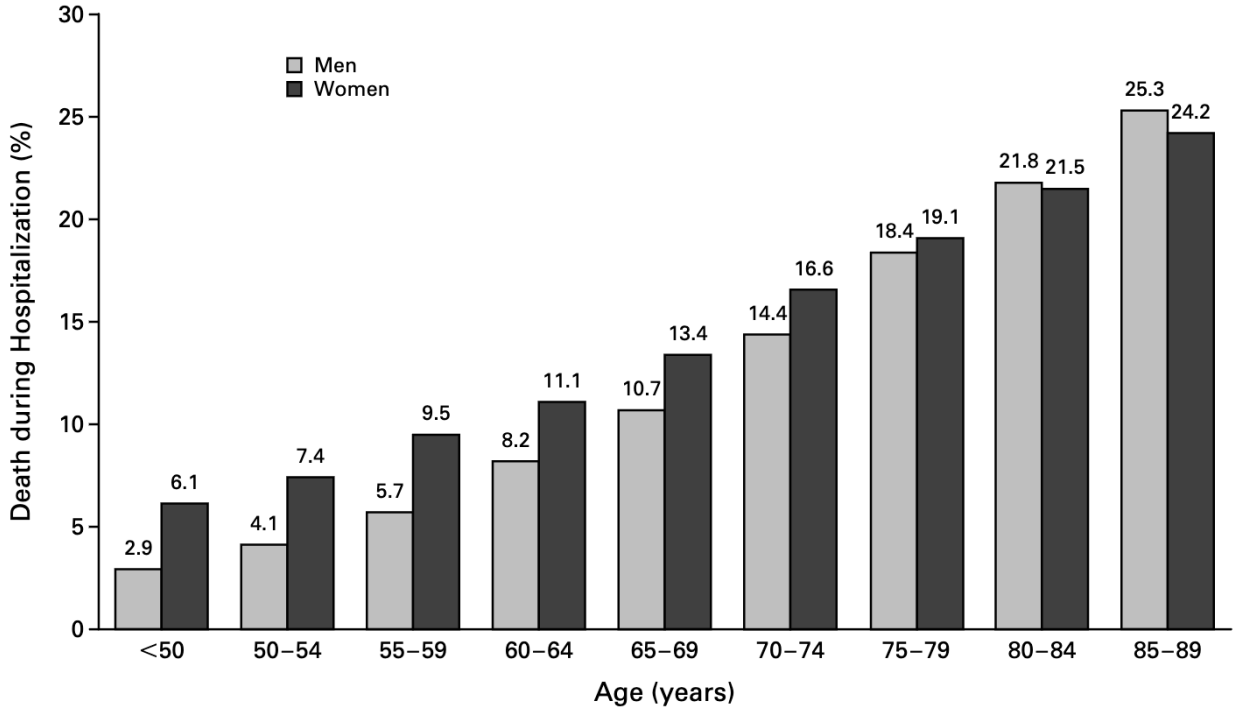
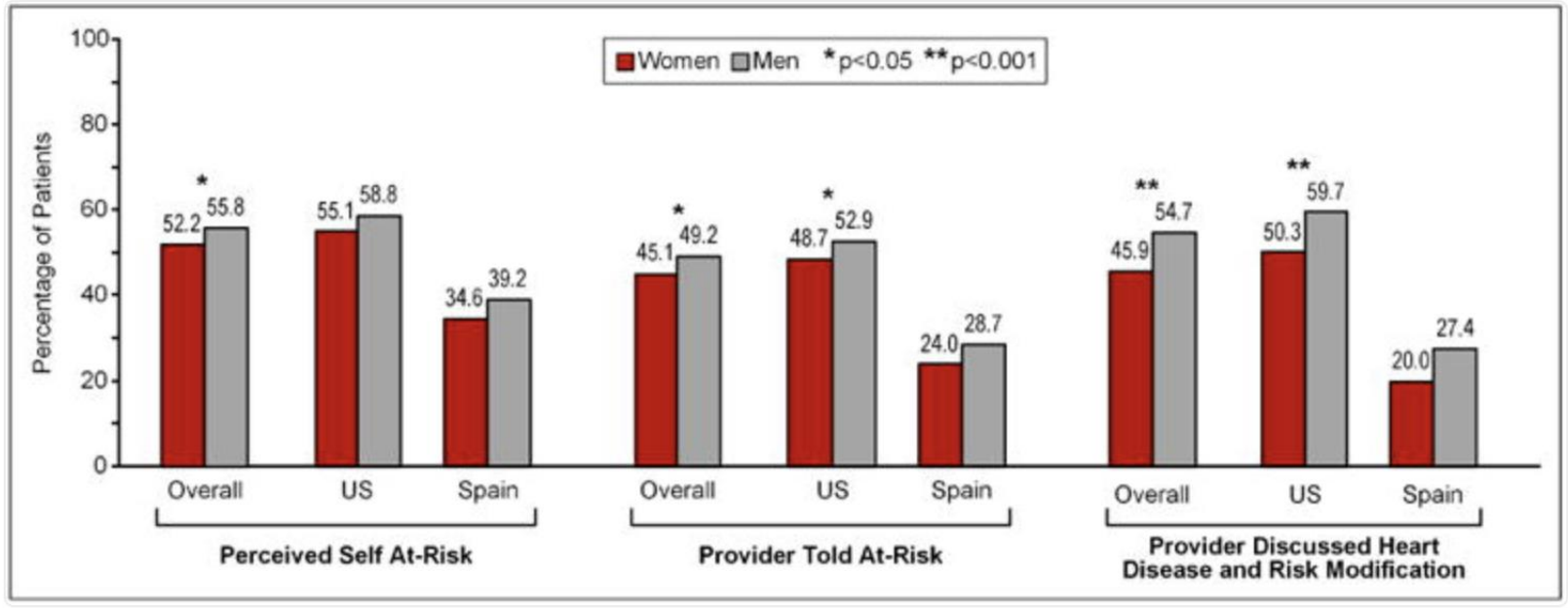


Figure 1. Rates of Death during Hospitalization for Myocardial Infarction among Women and Men, According to Age. The interaction between sex and age was significant (P<0.001).

Vaccarino V et al. N Engl J Med 1999;341:217-25



Perception – information sur le risque d'infarctus

Leifheit-Limson EC et al. J Am Coll Cardiol 2015

Maladie coronarienne – syndrome coronarien chronique

Table 2. Pretest Probability for Coronary Artery Disease by Age, Sex, and Symptoms*

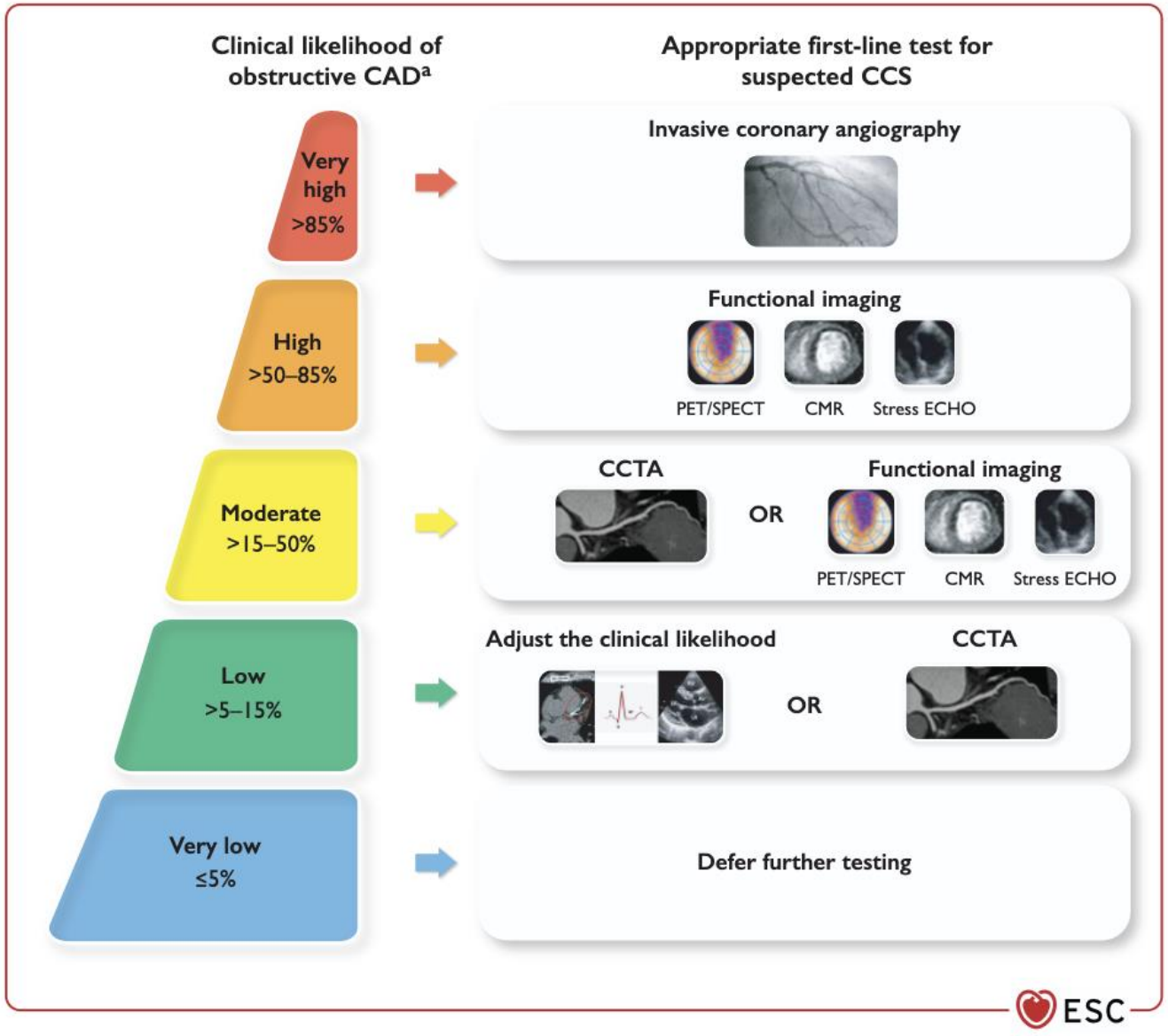
Age, y	Sex	Typical/Definite Angina Pectoris	Atypical/Probable Angina Pectoris	Nonanginal Chest Pain	Asymptomatic
30–39	Men	Intermediate	Intermediate	Low	Very low
	Women	Intermediate	Very low	Very low	Very low
40–49	Men	High	Intermediate	Intermediate	Low
	Women	Intermediate	Low	Very low	Very low
50–59	Men	High	Intermediate	Intermediate	Low
	Women	Intermediate	Intermediate	Low	Very low
60–69	Men	High	Intermediate	Intermediate	Low
	Women	High	Intermediate	Intermediate	Low

High indicates >90%; intermediate 10% to 90%; low <10%; very low <5%. Reused with permission from Gibbons et al.[182]

*No data exists for patients <30 or >69 y but it can be assumed that prevalence of coronary artery disease increases with age. In a few cases, patients with ages at the extremes of the decades listed may have probabilities slightly outside the high or low range.

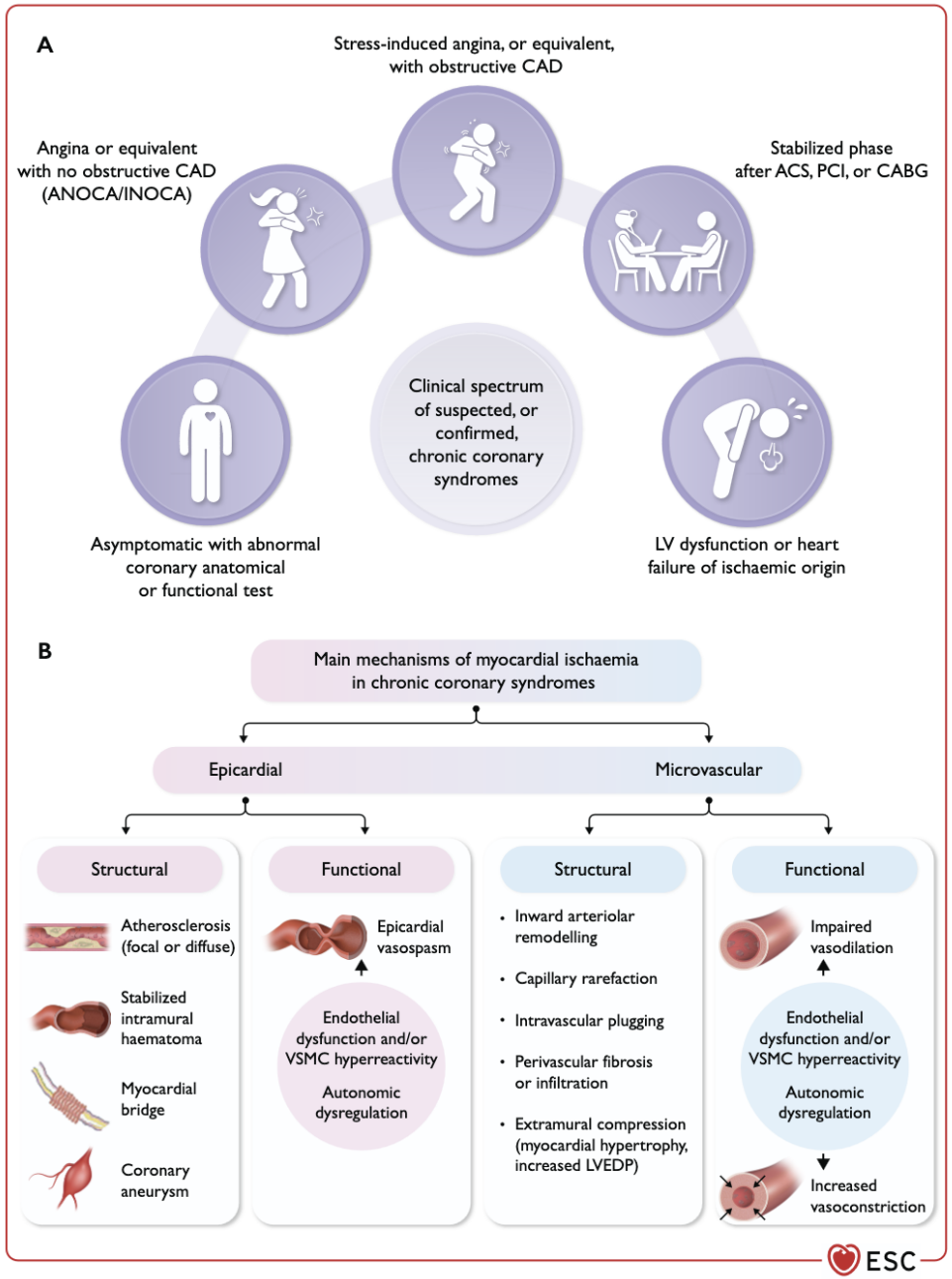
Garcia et al., Circulation Research, 2016

Syndrome coronarien chronique



ESC Guidelines, EHJ 2024

Syndrome coronarien chronique



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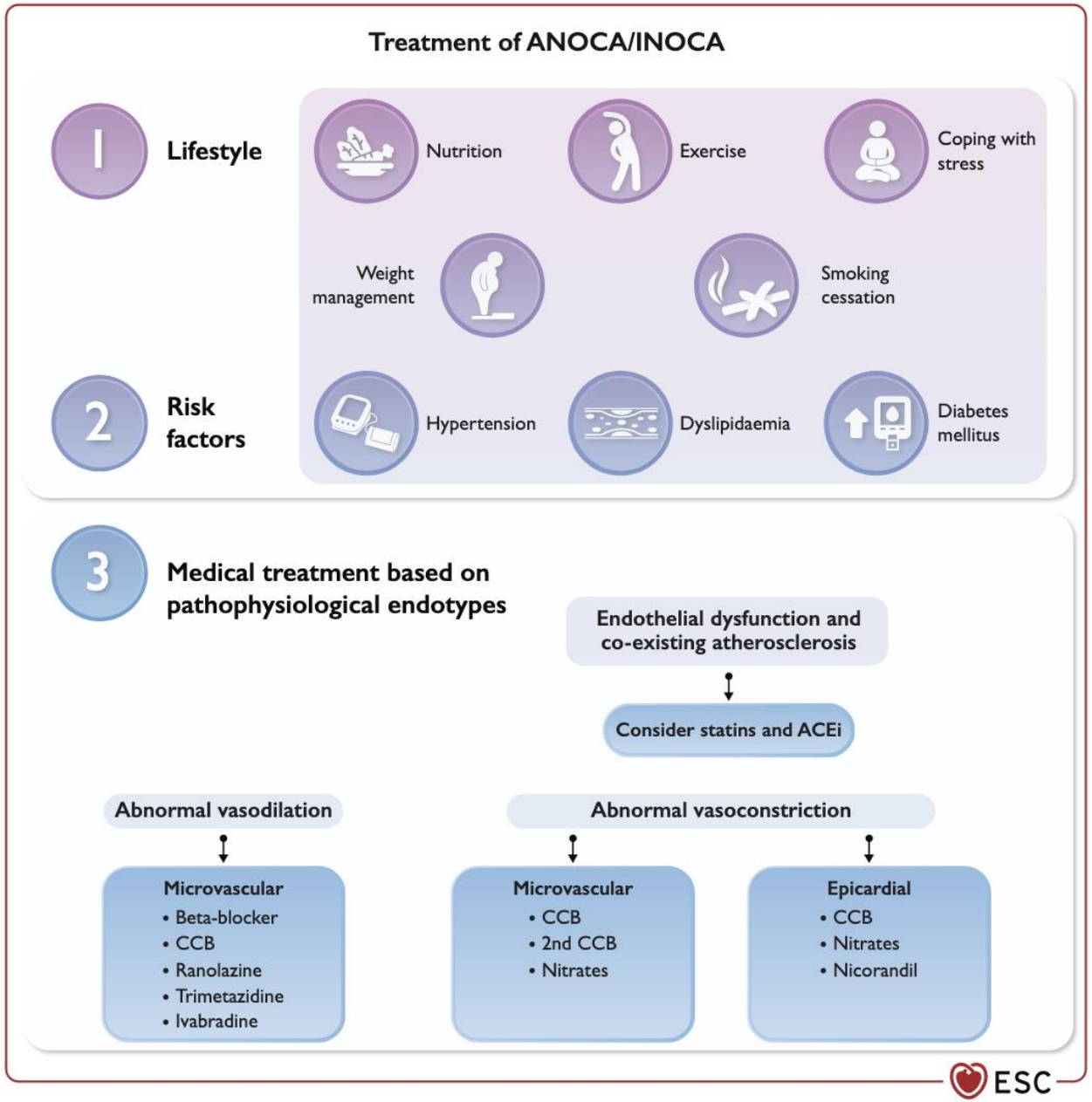
Syndrome coronarien chronique



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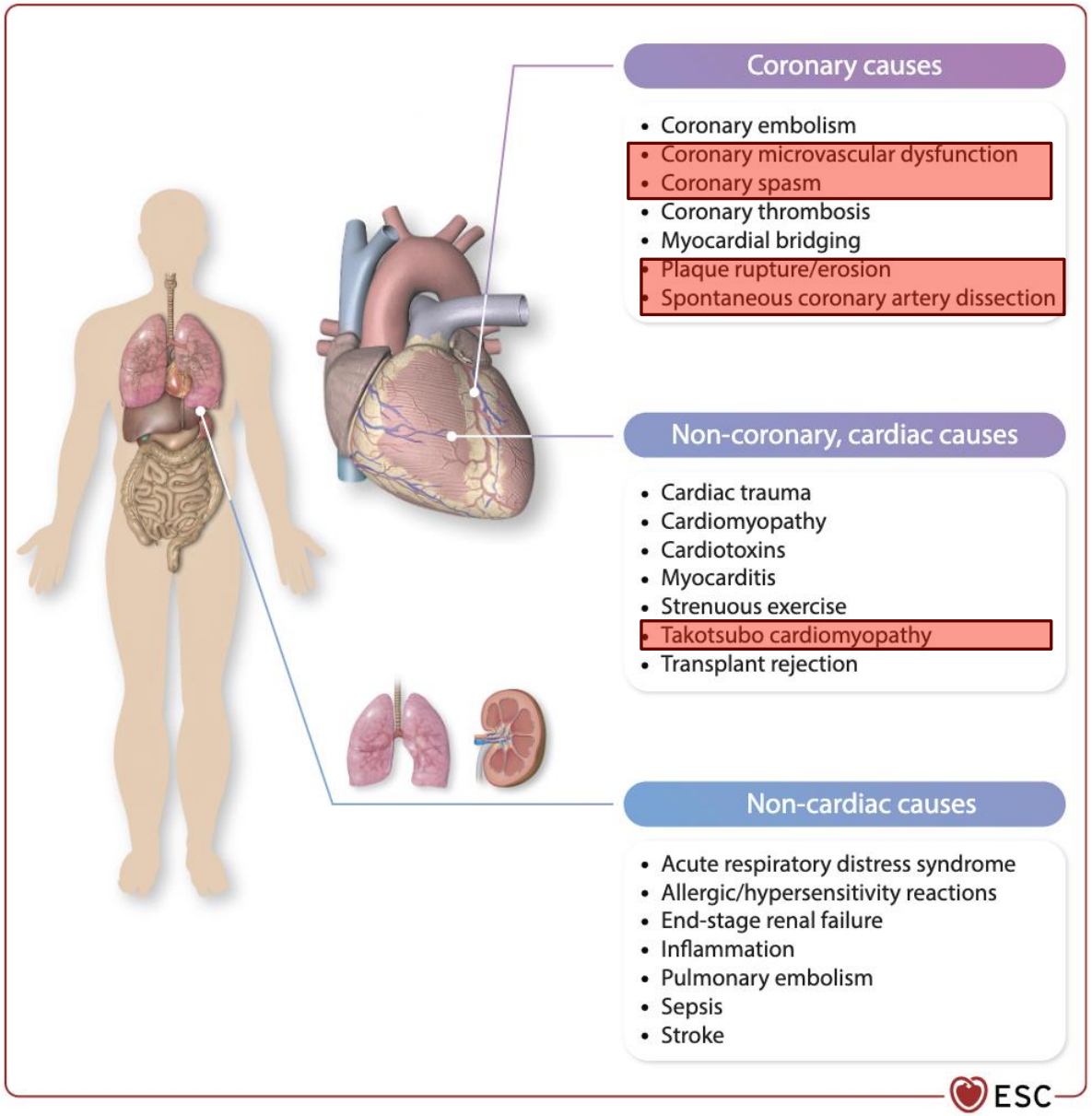
Syndrome coronarien aigu



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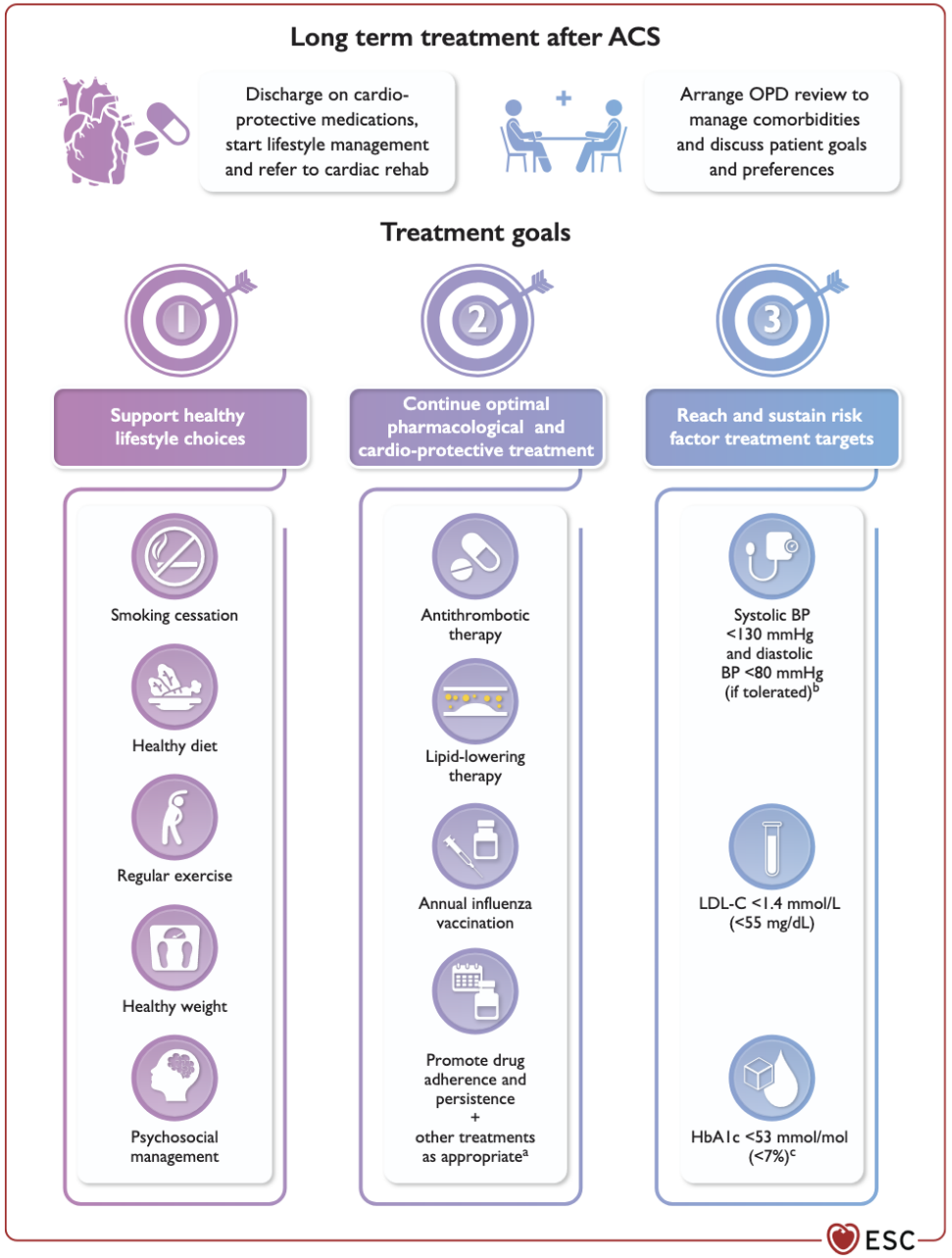
Syndrome coronarien aigu



ESC Guidelines, EHJ 2023

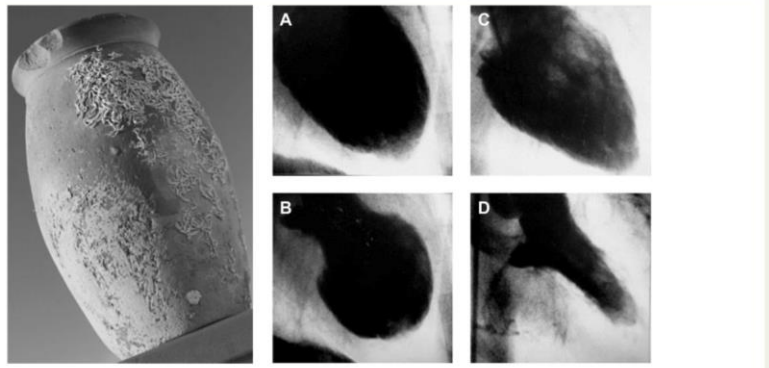


Figure 1 Historical Japanese octopus trap (left). Courtesy of Dr Templin, University Hospital Zurich, Zurich, Switzerland. Left ventriculogram of the first reported case of takotsubo syndrome. Diastole (*A*) and systole (*B*) during the acute phase of takotsubo syndrome. Recovery of left ventricular wall motion abnormality two weeks after the event (*C* and *D*). Courtesy of Dr Dote, Hiroshima City Asa Hospital, Hiroshima, Japan.

Syndrome de takotsubo

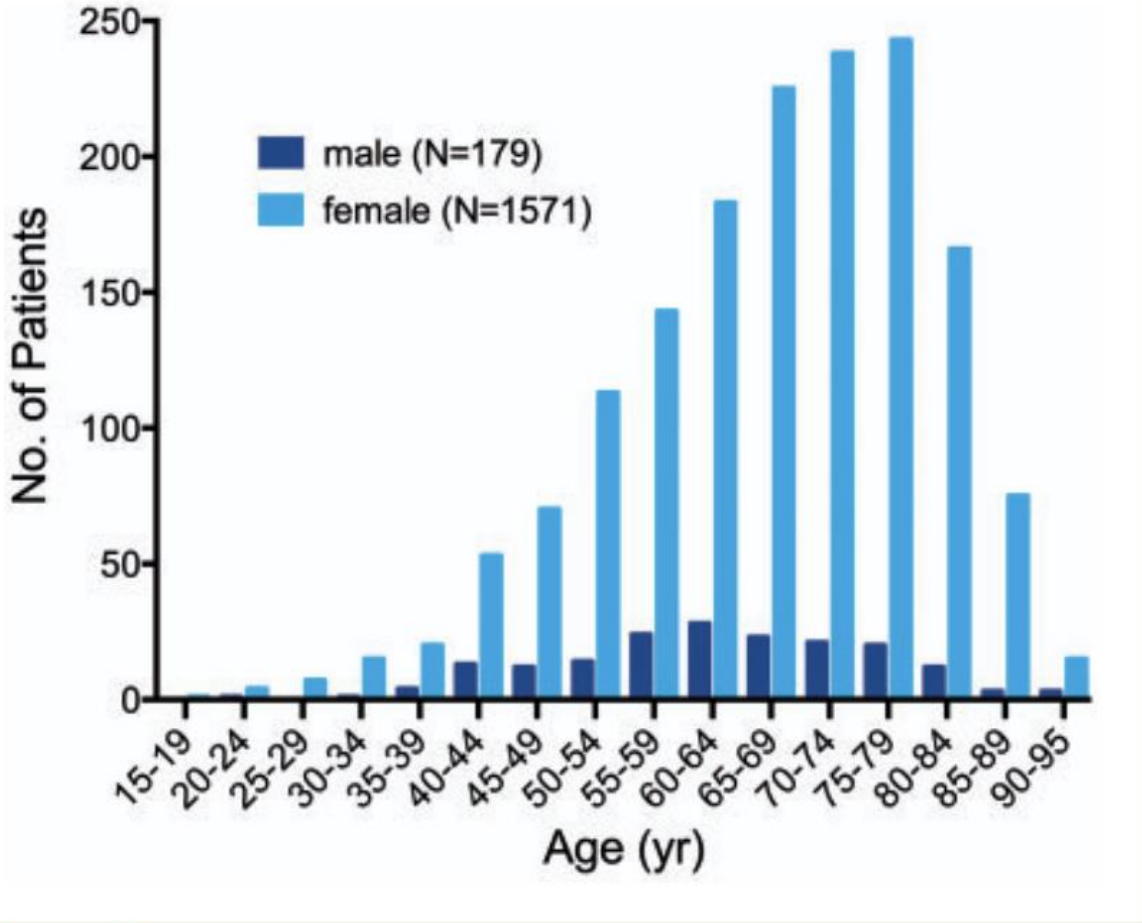
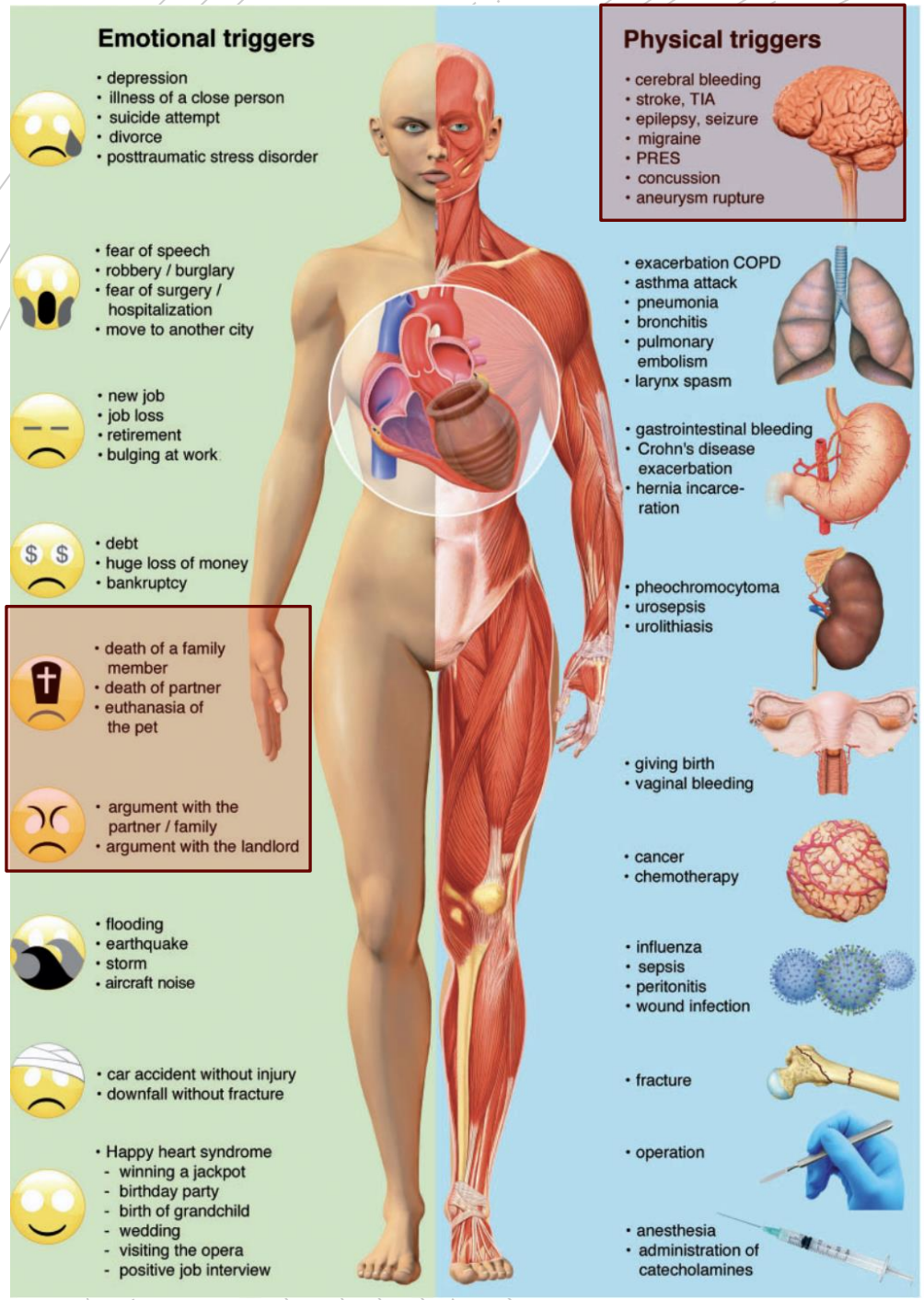


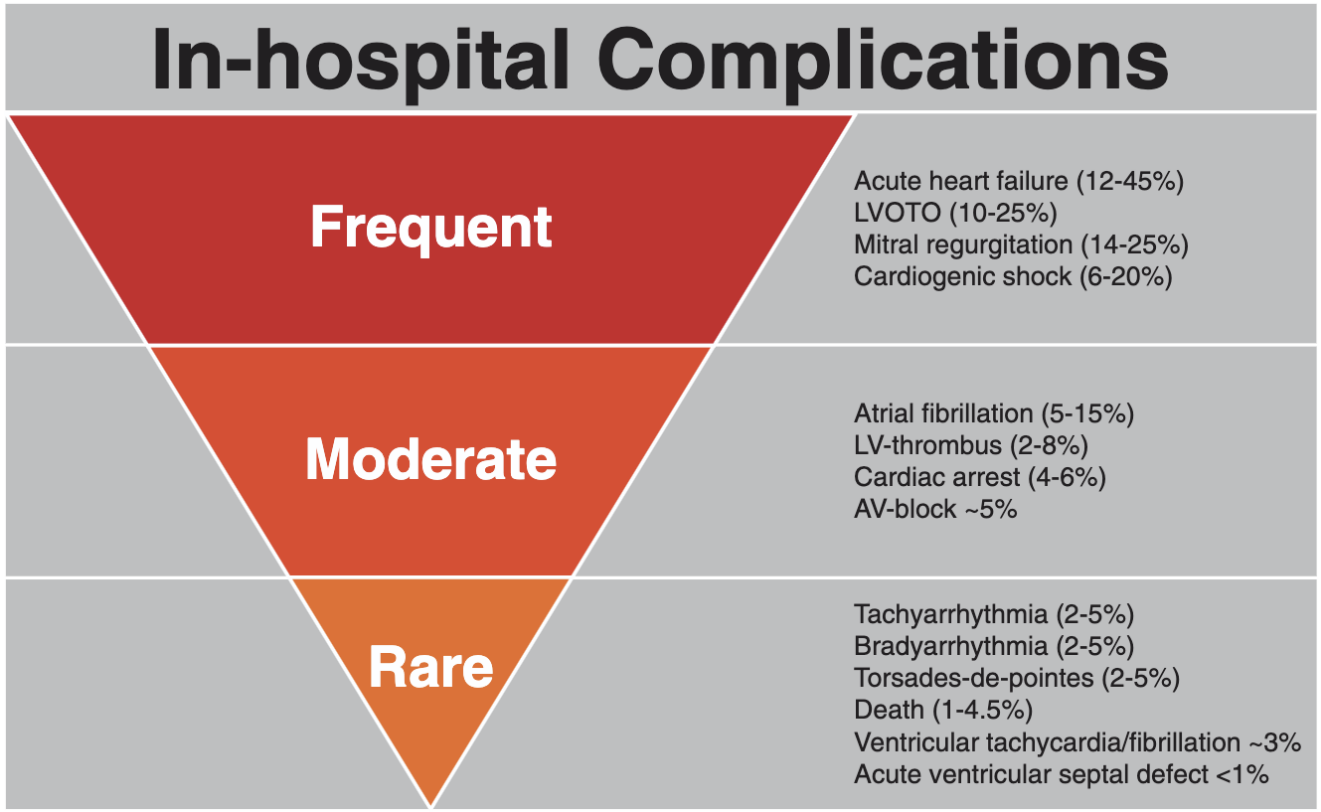
Figure 2 Age and sex distribution of patients with takotsubo syndrome. Reprinted with permission from Templin *et al.*[16]

ESC Task Force, EHJ 2023



InterTAK Diagnostic Score	
Female sex	25 points
Emotional stress	24 points
Physical stress	13 points
No ST-segment depression	12 points
Psychiatric disorders	11 points
Neurologic disorders	9 points
QTc prolongation	6 points
≤70 points Low/intermediate probability of TTS	**>70 points** High probability of TTS

Syndrome de takotsubo



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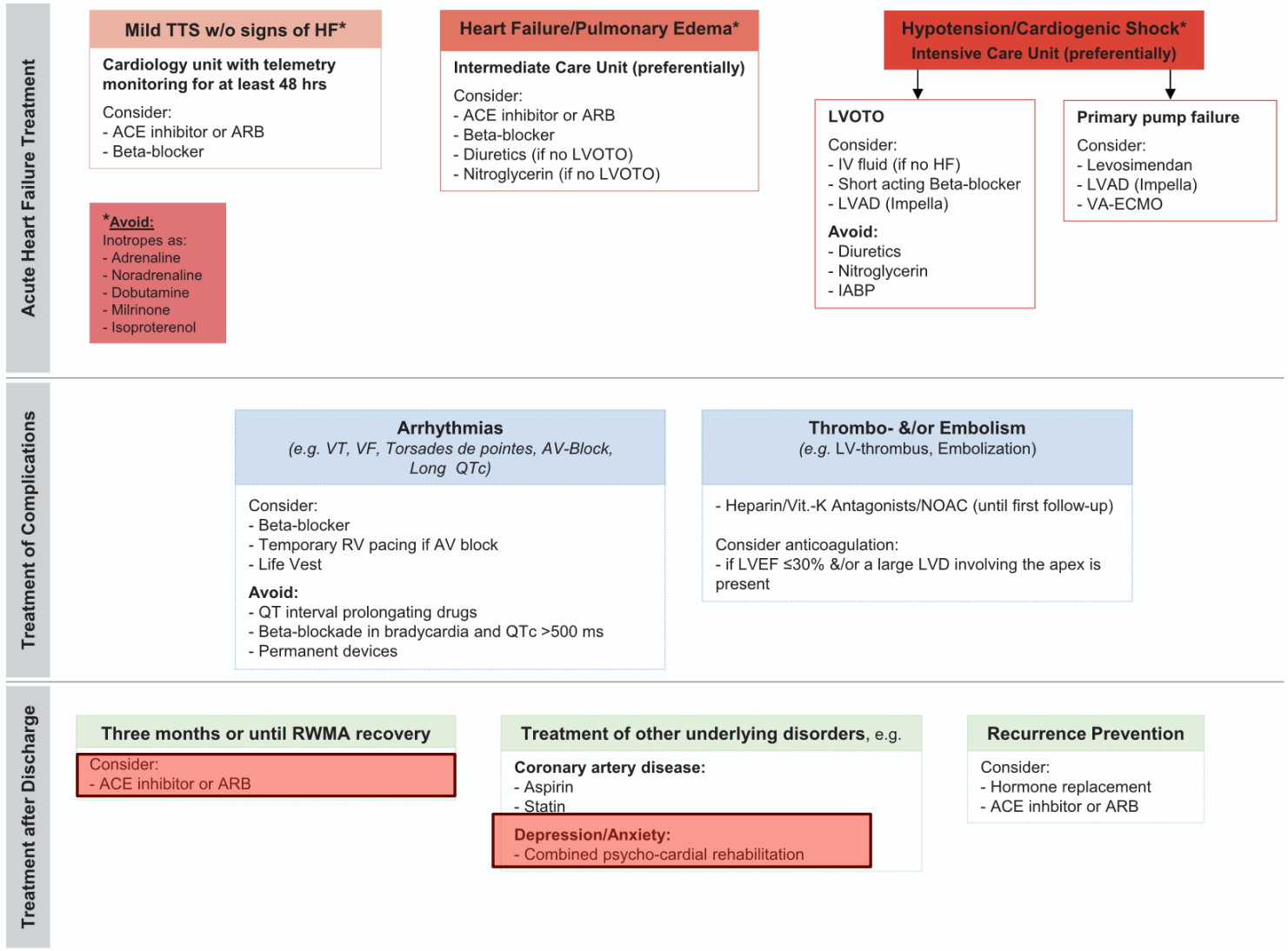
Syndrome de takotsubo



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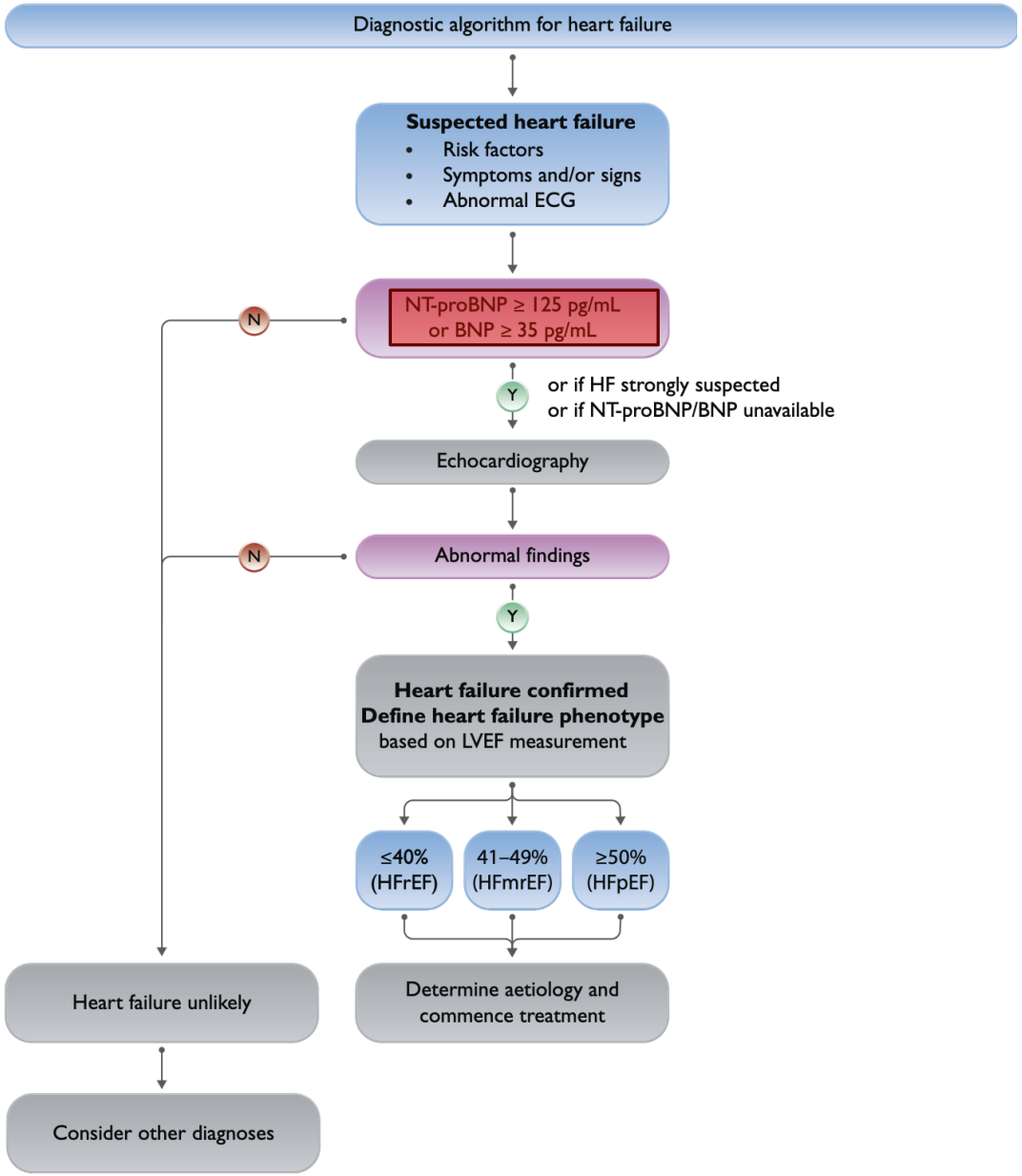
Insuffisance cardiaque



ESC Guidelines, EHJ 2021

	HFpEF Incidence	HFpEF Prevalence	HFpEF Clinical Outcomes
	• 27 cases per 10,000 person-years • Lifetime risk: 1 in 10 at age 45 years	• 1.0%-1.5% of population • Highly age dependent	• 5-year mortality: 75.3% (GWTG registry) • 30-day all-cause readmission rate: 21%
Secular trends	↑ incidence over time	↑ prevalence over time	?
Sex differences			
HFpEF vs HFrEF	HFpEF incidence rising relative to HFrEF	HFpEF prevalence rising relative to HFrEF	Similarly poor survival ↓ CV death in HFpEF vs HFrEF

Insuffisance cardiaque
Hf-pEF

Barry A. Borlaug et al. *JACC* 2023

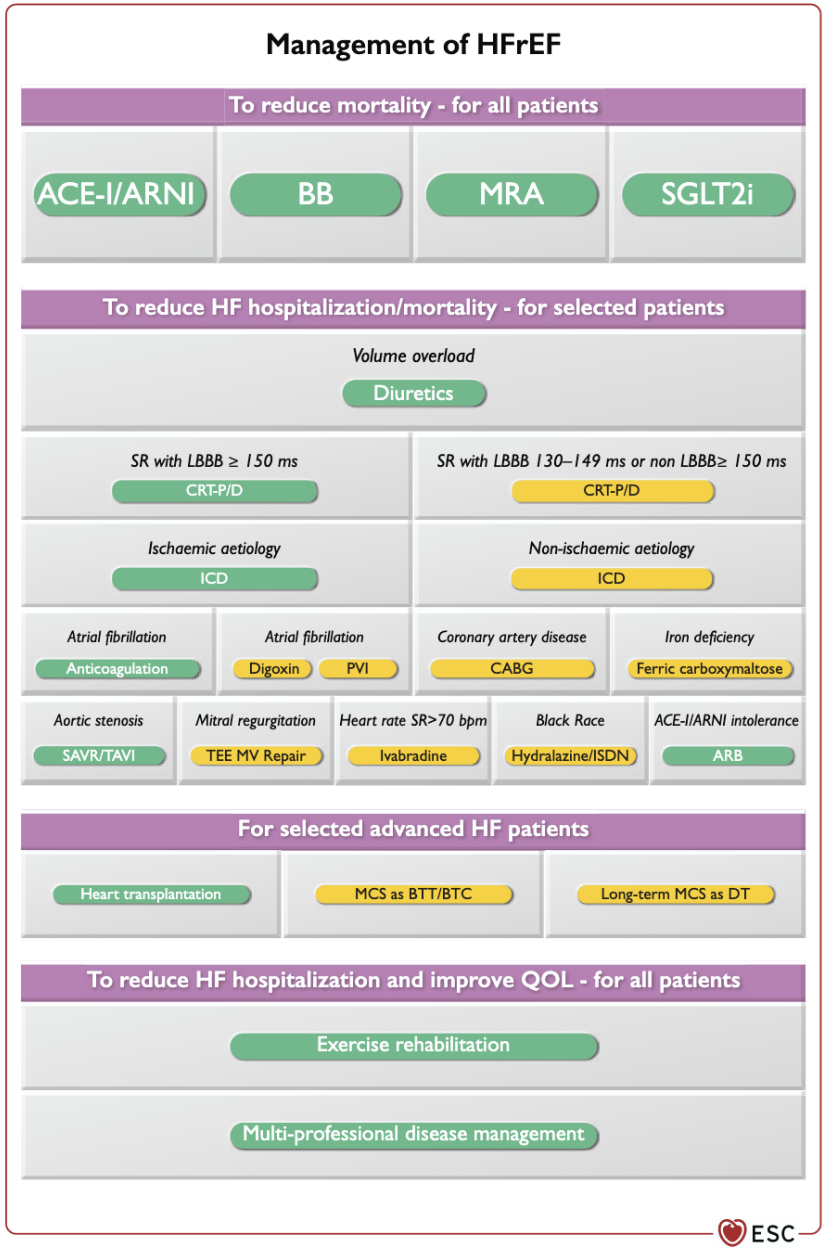
Insuffisance cardiaque Hf-pEF

Recommendations for the primary prevention of heart failure in patients with risk factors for its development

Recommendations	Class[a]	Level[b]
Treatment of hypertension is recommended to prevent or delay the onset of HF, and to prevent HF hospitalizations.[287–290]	I	A
Treatment with statins is recommended in patients at high risk of CV disease or with CV disease in order to prevent or delay the onset of HF, and to prevent HF hospitalizations.[291,292]	I	A
SGLT2 inhibitors (canagliflozin, dapagliflozin, empagliflozin, ertugliflozin, sotagliflozin) are recommended in patients with diabetes at high risk of CV disease or with CV disease in order to prevent HF hospitalizations.[293–297]	I	A
Counselling against sedentary habit, obesity, cigarette smoking, and alcohol abuse is recommended to prevent or delay the onset of HF.[298–302]	I	C

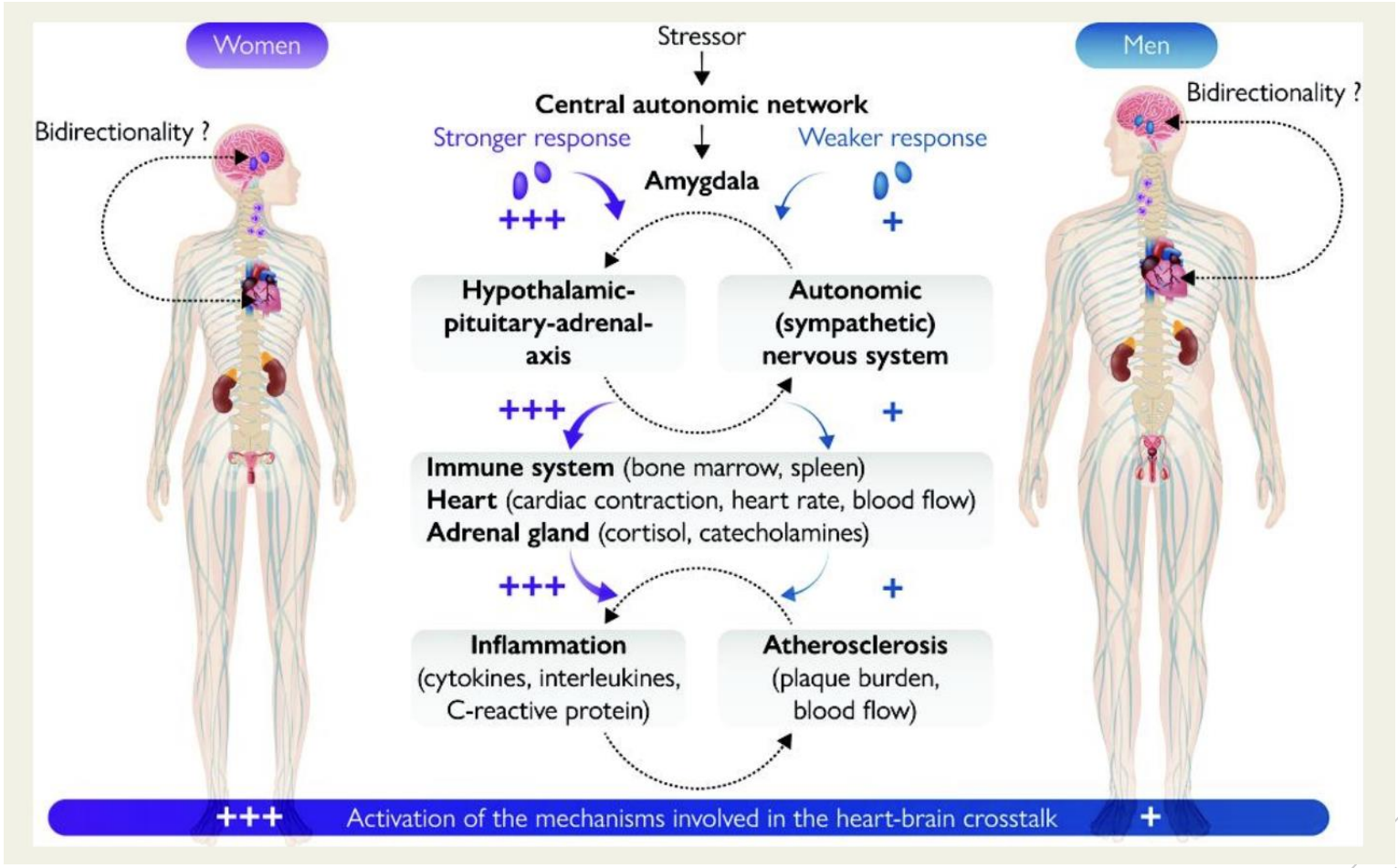
ESC Guidelines, EHJ 2021

Insuffisance cardiaque Hf-rEF



ESC Guidelines, EHJ 2021

Heart – brain crosstalk



Rossi et al., EHJ 2022

Messages clés
femmes et santé cardio-vasculaire

- Facteurs de risque cv classiques :
  - Impact ↗
  - Sous-traitement (HTA !)
- Facteurs de risque spécifiques : 'risk modifiers'
- Pathologies plus fréquentes : (M)INOCA, Hf-pEF, takotsubo
- Sous-représentation dans études (médicaments, dose, effets secondaires)
- Sensibilisation médecins ET patientes

MERCI POUR VOTRE ATTENTION