



Prévalence et mécanismes de la mort subite coronaire chez le sportif ≥ 35 ans

Rodrigue Garcia

DÉCLARATION DE LIENS D'INTÉRÊT AVEC LA PRÉSENTATION

Nom de l'orateur : Rodrigue GARCIA,

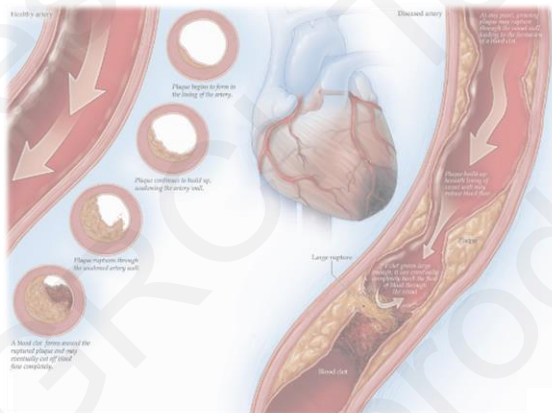
Copenhague

☒ Je n'ai pas de lien d'intérêt potentiel à déclarer

La mort subite dans la population générale



Effet du sport sur les coronaires



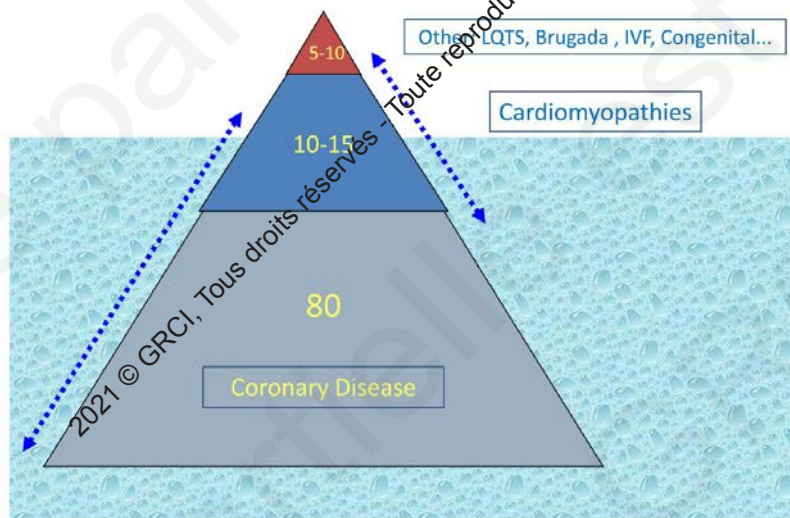
Mort subite du sportif



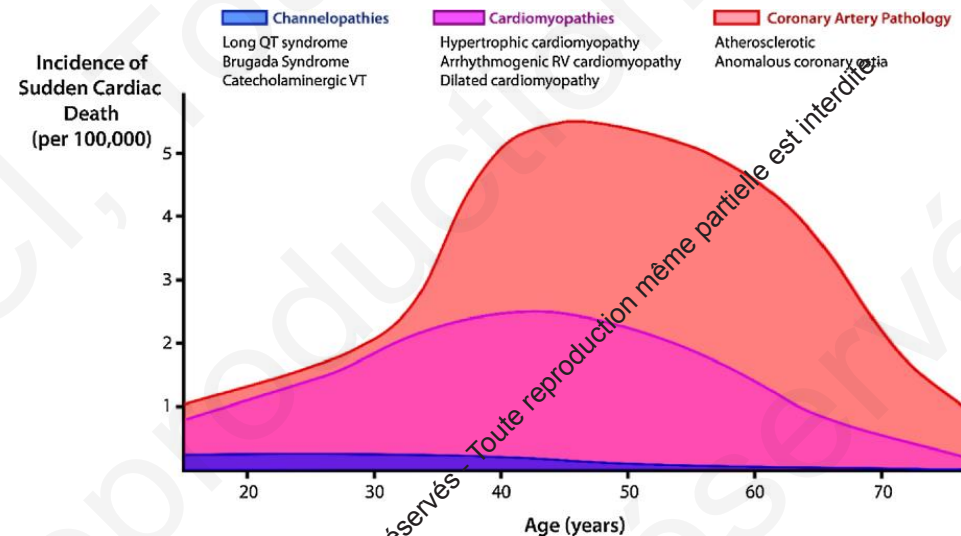


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Mort subite - Etiologies



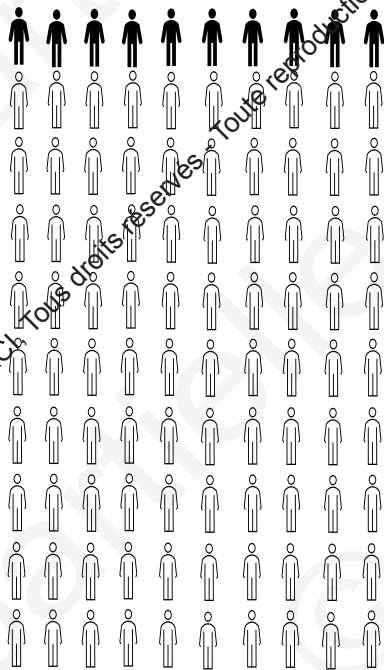
Wong Heart Lung Circul 2018
Chugh Prog Cardiovasc Dis 2004



Flannery Heart Lung Circul 2018

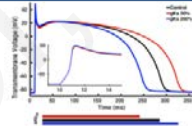
Physiopathologie

Sd coronarien aigu

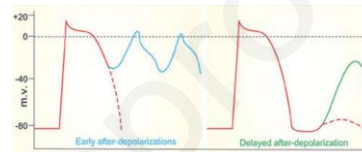
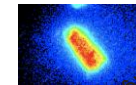


Ischémie myocardique

Activation courant I_K ATP



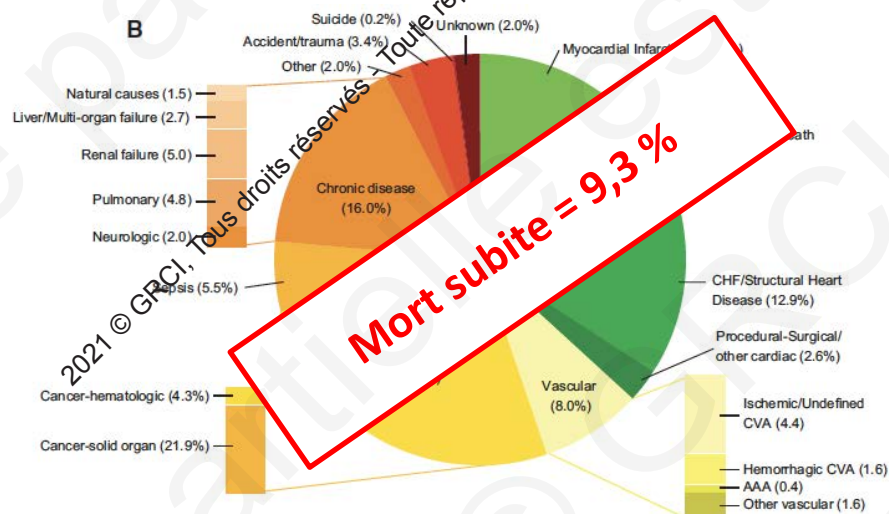
Surcharge IC calcique



Karam *Circulation* 2016;

Physiopathologie

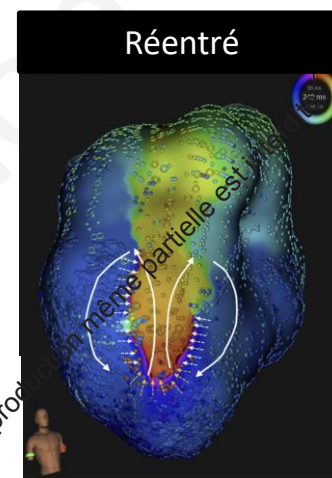
CMI chronique



Spoon Circulation 2014

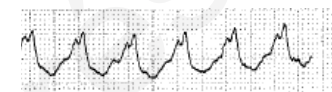
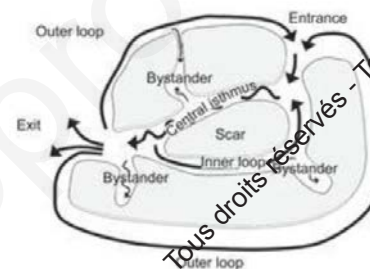


Fibrose



Réentré

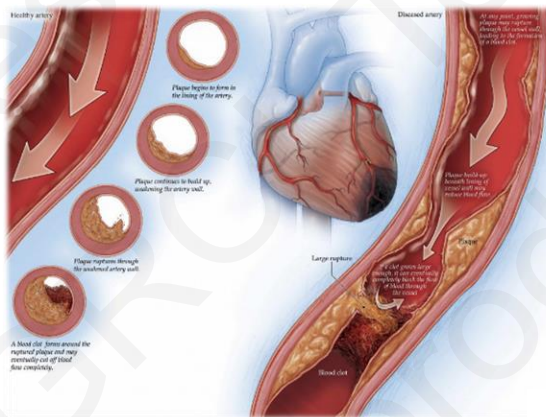
Conduction lente



La mort subite dans la population générale



Effet du sport sur les coronaires

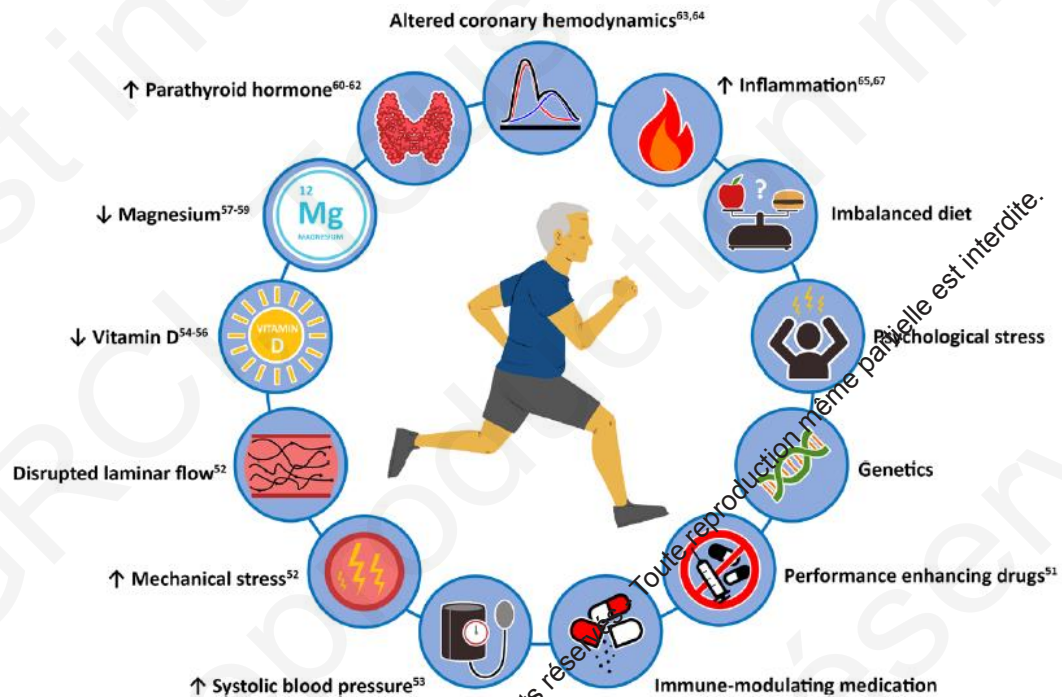


Mort subite du sportif

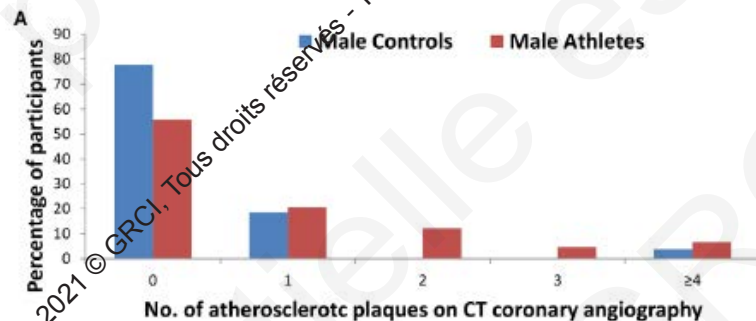


Physiopathologie

Sport et athérosclérose



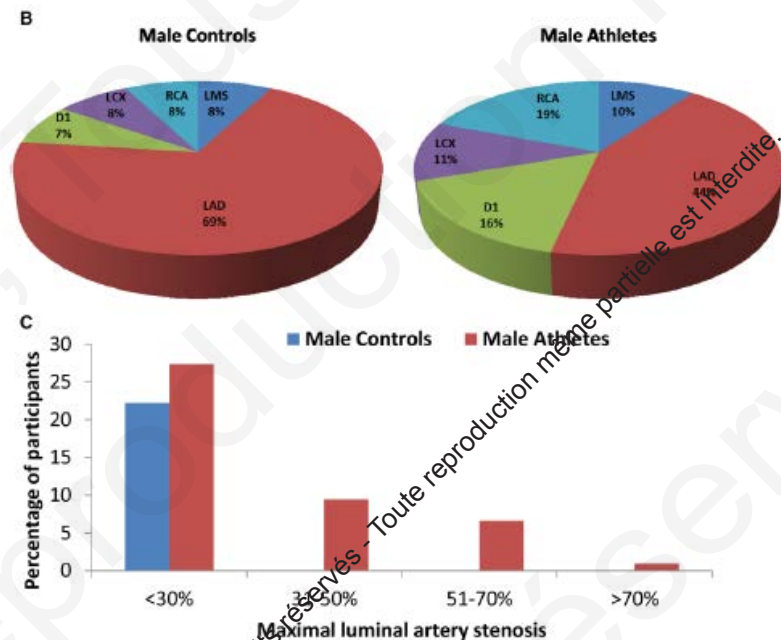
Maladie coronaire chez les sportifs de haut niveau



Merghani *Circulation* 2017

ORIGINAL RESEARCH ARTICLE

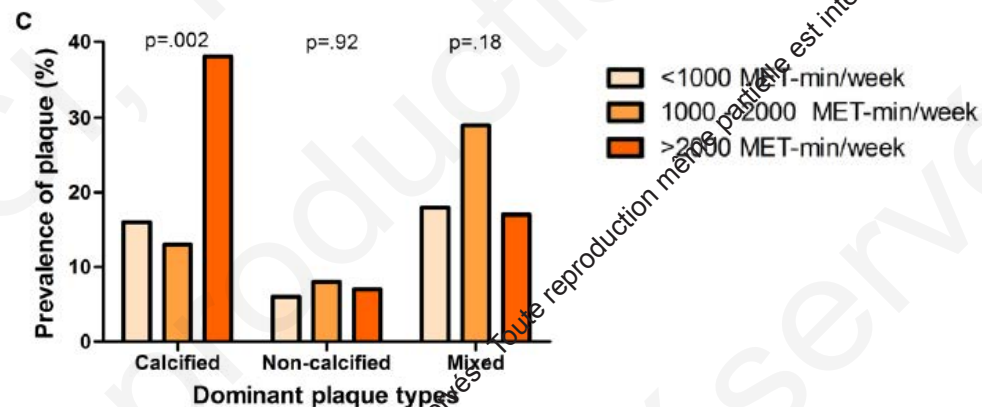
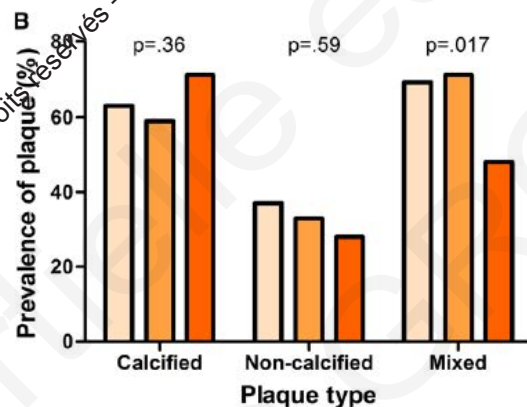
Prevalence of Subclinical Coronary Artery Disease in Masters Endurance Athletes With a Low Atherosclerotic Risk Profile



Type de lésion

ORIGINAL RESEARCH ARTICLE

Relationship Between Lifelong Exercise Volume and Coronary Atherosclerosis in Athletes



Aengevaeren *Circulation* 2017

Calcifications coronaires et mortalité

JAMA Cardiology | Original Investigation

Association of All-Cause and Cardiovascular Mortality With High Levels of Physical Activity and Concurrent Coronary Artery Calcification

Laura F. DeFina, MD; Nina B. Radford, MD; Carolyn E. Barlow, PhD; Benjamin L. Willis, MD, MPH;
David Leonard, PhD; William L. Haskell, PhD; Stephen W. Farrell, PhD; Andjelka Pavlovic, PhD;
Katelyn Abel; Jarett D. Berry, MD; Amit Khera, MD, MSc; Benjamin D. Levine, MD

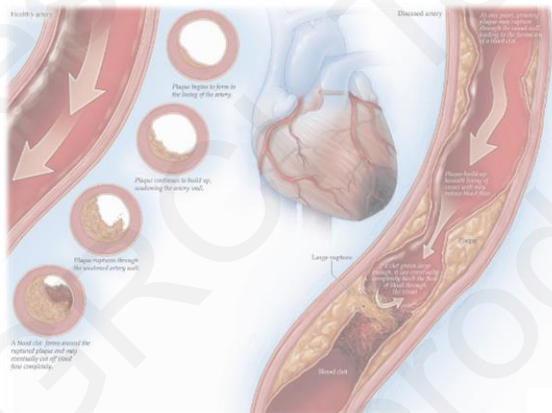
	HR pour mortalité toute cause		
	CAC <100	CAC >100	CAC >400
MET-min/sem			
< 1500 (ref)	1	1	1
1500-2999	0.78 (0.56-1.07)	0.87 (0.65-1.17)	0.83 (0.58-1.09)
≥ 3000	0.52 (0.29-0.91)	0.77 (0.52-1.15)	0.65 (0.39-1.08)

DeFina JAMA Cardiol 2019

La mort subite dans la population générale



Effet du sport sur les coronaires



Mort subite du sportif





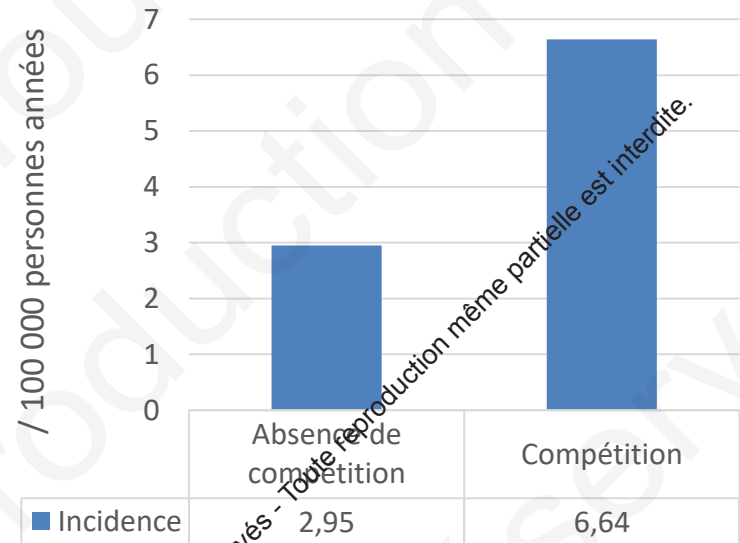
Un coureur français est décédé lors du Marathon des sables

Epidémiologie - Incidence de la mort subite chez le sportif

TABLE 1 Description of Included Studies

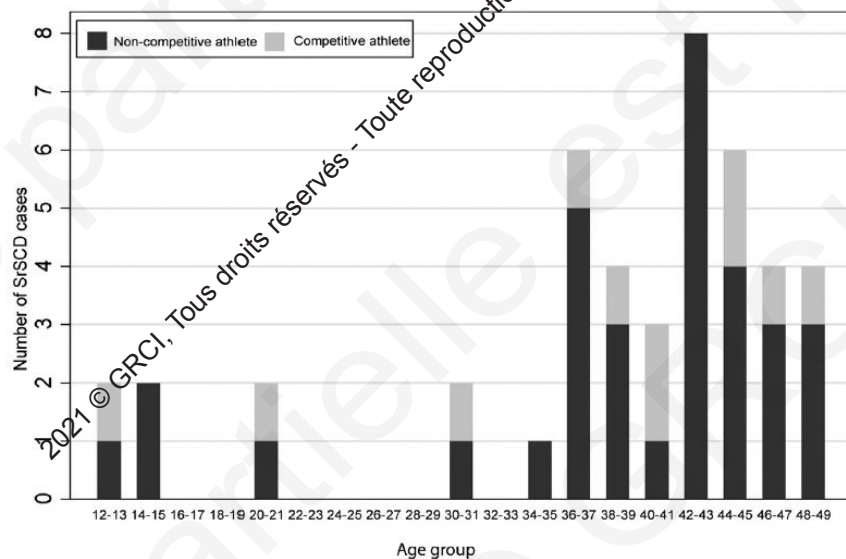
Study	Design	PY of Study	Rate per 100,000 PY (95% CI)
Thompson et al. JAMA 1982;247:2535-8	Retrospective	76,364	13.09 (4.98 to 21.21)
Waller et al. Clin Cardiol 1992;15:851-8	Prospective	1,29,089	1.69 (0.80 to 2.57)
Fuller et al. Med Sci Sports Exerc 1997;29:1131-8	Prospective	1,29,089	0.33 (0.27 to 0.40)
Maron et al. J Am Coll Cardiol 1998;32:1881-4	Retrospective	1,29,089	1.33 (-1.33 to 2.82)
Van Camp et al. Med Sci Sports Exerc 1998;30:641-7	Retrospective	1,29,089	0.06 (0.06 to 0.98)
Durakovic et al. J Sports Med Phys Fitness 2005;45:532-6	Retrospective	3,930,000	0.15 (0.03 to 0.27)
Corrado et al. JAMA 2006;296:1575-81	Retrospective	1,994,579	1.87 (1.38 to 2.37)
Chevalier et al. Eur J Cardiovasc Prev Rehabil 2009;12:565-70	Prospective	1,29,089	1.26 (0.03 to 2.50)
Drezner et al. Circulation 2009;120:518-25	Prospective	1,29,089	1.59 (1.03 to 2.14)
Maron et al. Circulation 2009;119:1088-92	Prospective	1,29,089	0.61 (0.55 to 0.67)
Holst et al. Heart Rhythm 2010;6:1365-71	Prospective	1,239,112	1.21 (0.60 to 1.82)
Solberg et al. J Am Coll Cardiol 2010;55:12337-41	Prospective	2,597,204	0.85 (0.49 to 1.20)
Marion et al. Circulation 2010;121:1448-54	Prospective	169,742,000	0.33 (0.31 to 0.36)
Steinberg et al. J Am Coll Cardiol 2011;57:1291-6	Retrospective	923,076	2.38 (1.39 to 3.38)
Risgaard et al. J Am Coll Cardiol 2013;61:1033-7	Retrospective	1,666,509	0.24 (0.00 to 0.48)
Risgaard et al. Heart Rhythm 2014;10:1033-7	Prospective	1,577,366	0.13 (-0.05 to 0.30)
Risgaard et al. Heart Rhythm 2015;11:1033-7	Prospective	3,035,521	1.45 (1.02 to 1.88)
Hammon et al. Circulation 2016;133:1033-7	Prospective	4,242,519	1.86 (1.45 to 2.27)
Grani et al. Eur J Prev Cardiol 2016;23:1228-36	Retrospective	24,392,760	0.59 (0.50 to 0.69)
Bohm et al. Eur J Prev Cardiol 2016;23:649-56	Prospective	120,000,000	0.09 (0.07 to 0.11)
Hammon et al. Mayo Clin Proc 2016;91:1493-502	Retrospective	6,974,640	0.99 (0.76 to 1.22)
Overall		437,156,081	0.72 (0.58 to 0.86)

Mohananey JACC 2017

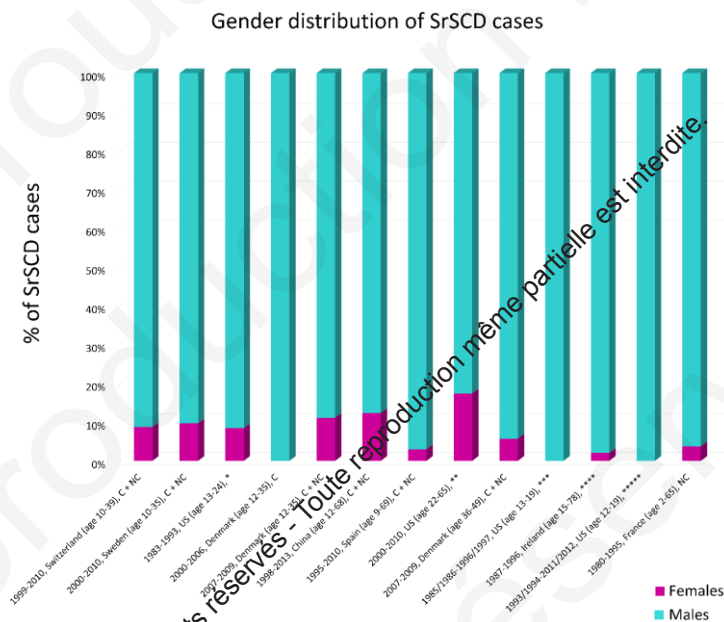


Risgaard Heart Rhythm 2014

Epidémiologie



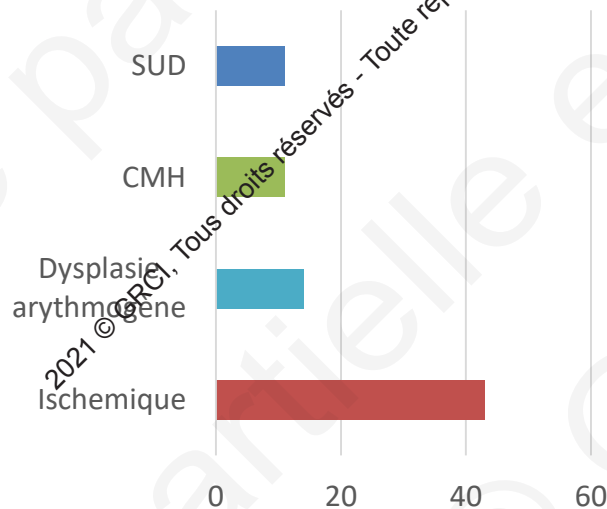
Risgaard *Heart Rhythm* 2014



Rajan *Eur Heart J* in press

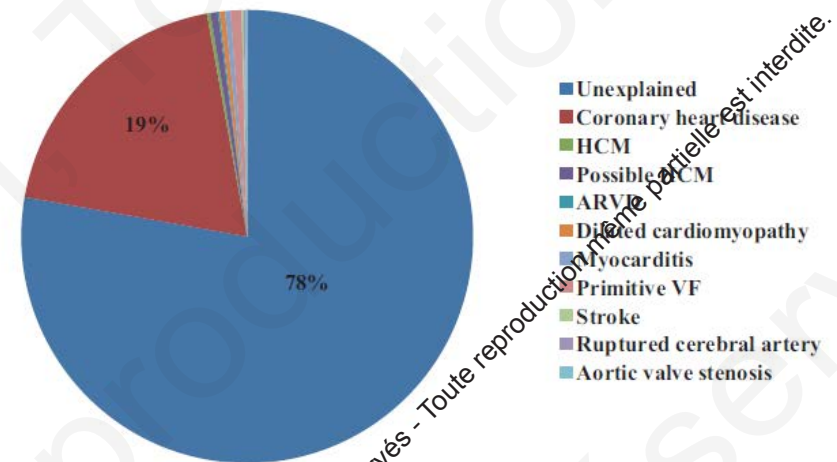
Etiologie de la mort subite chez le sportif

Danemark



Risgaard Heart Rhythm 2014

France

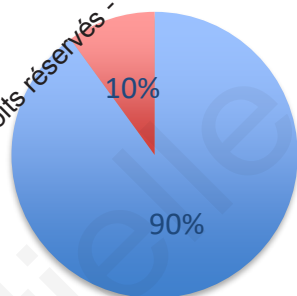


Marijon Circulation 2006

Arrhythmia/Electrophysiology

Sports-Related Sudden Death in the General Population

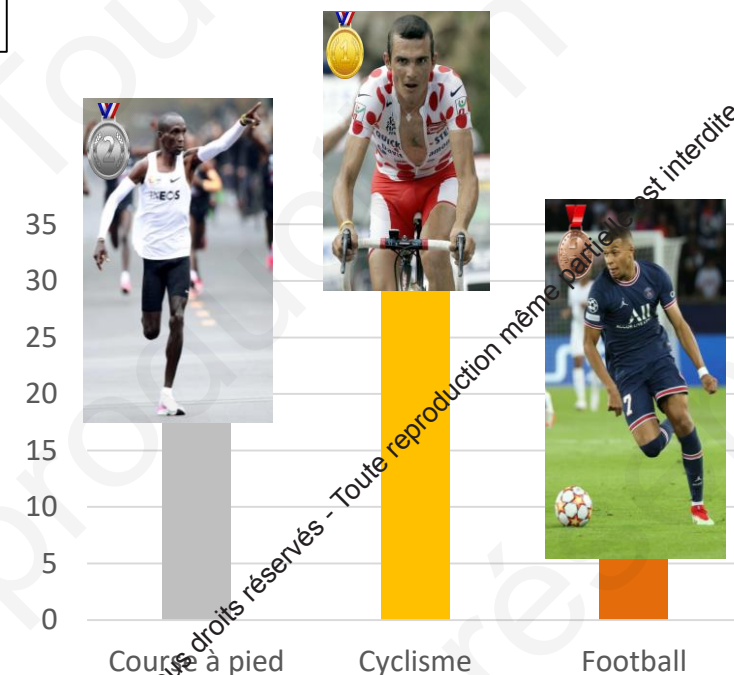
Eloi Marijon, MD; Muriel Tafflet, PhD; David S. Celermajer, PhD, FRACP; Florence Dumas, MD; Marie-Cécile Perier, MSc; Hazrije Mustafic, MD; Jean-François Toussaint, MD, PhD; Michel Desnos, MD; Michel Rieu, MD; Nordine Benamer, MD; Jean-Yves Le Heuzey, MD; Jean-Philippe Empana, MD, PhD; Xavier Jouven, MD, PhD



■ Sport loisir
■ Compétition

820 cas
Entre 2005 et 2010

Incidence
4.6 cas / million par an
95% d'hommes
Age moyen 46 ans

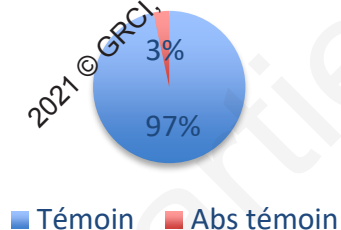


Arrhythmia/Electrophysiology

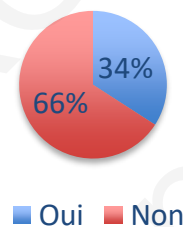
Sports-Related Sudden Death in the General Population

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Jean-Philippe Empana, MD, PhD; Xavier Jouven, MD, PhD

Présence d'un Témoin



Massage cardiaque



Délai Massage



4.8 min

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Conclusion

- 1^{ère} cause de mort subite chez sportif
 - Cardiopathie ischémique
- Le sport haute intensité
 - favorise l'athérosclérose coronaire
 - Associé à des lésions calcifiées
- Le sport augmente l'espérance de vie

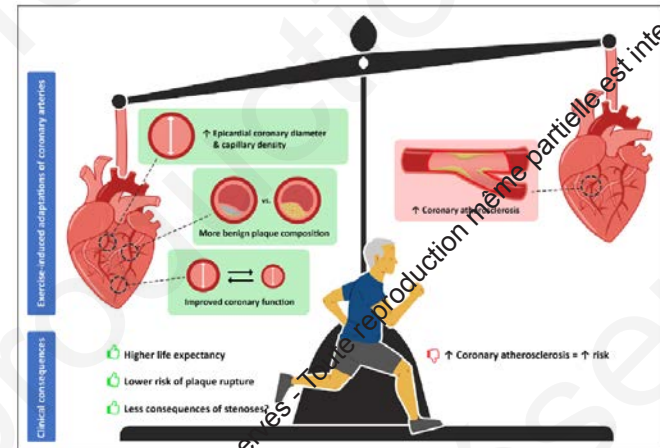


Figure 5. The benefits and risks of long-term exercise training on coronary function, morphology, and atherosclerosis.

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