

Commotio Cordis

Didier IRLES – 17 septembre 2013

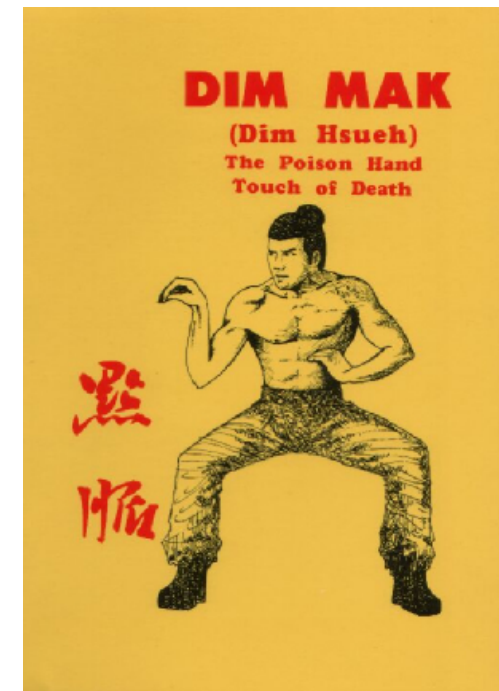
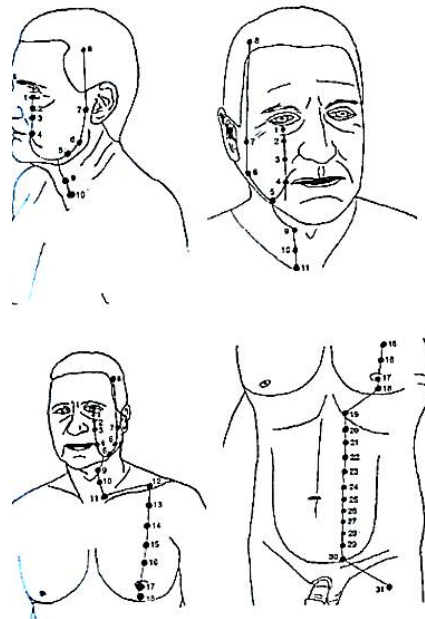
Commotio Cordis : définition

Littéralement « Choc sur le Cœur »

- Mort subite dans les suites immédiates d'un choc sur la poitrine, et ce en l'absence de traumatisme costal, du sternum, ou du cœur.

Commotio Cordis : historique

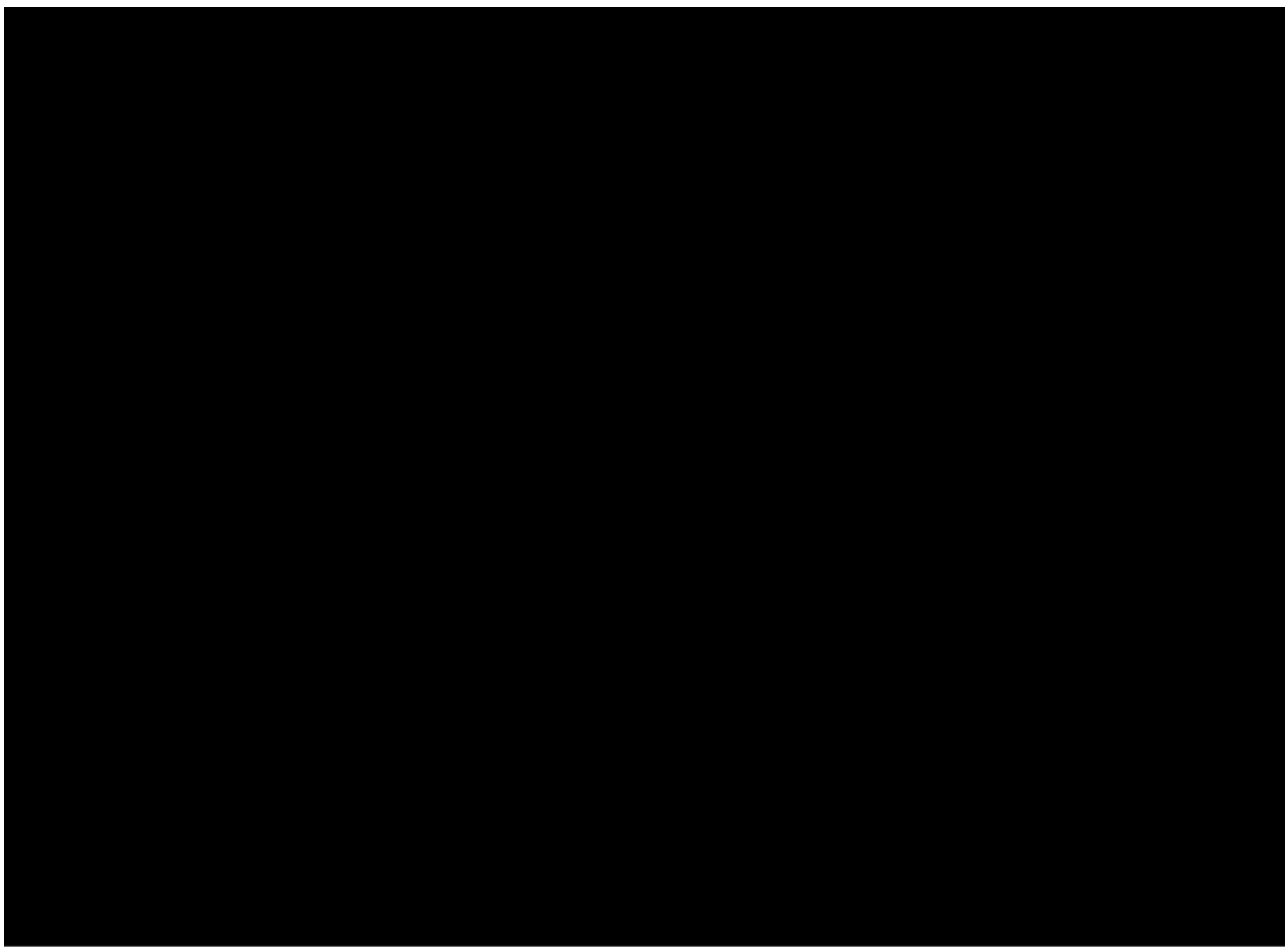
- Terme datant du XIXième siècle : coup de la mort (Dim Mak, art martial chinois)



Commotio Cordis : historique

- Premiers cas décrits dès le XVIIIème, principalement accidents de travail
- Recrudescence importante des publications après 1990





Commotio Cordis : épidémiologie

- Touche principalement les enfants, adolescents, et jeunes adultes
- Incidence mal connue...
- Registre Minneapolis : première cause de MS après CMH et anomalies d'implantations des coronaires

Commotio Cordis : Minneapolis

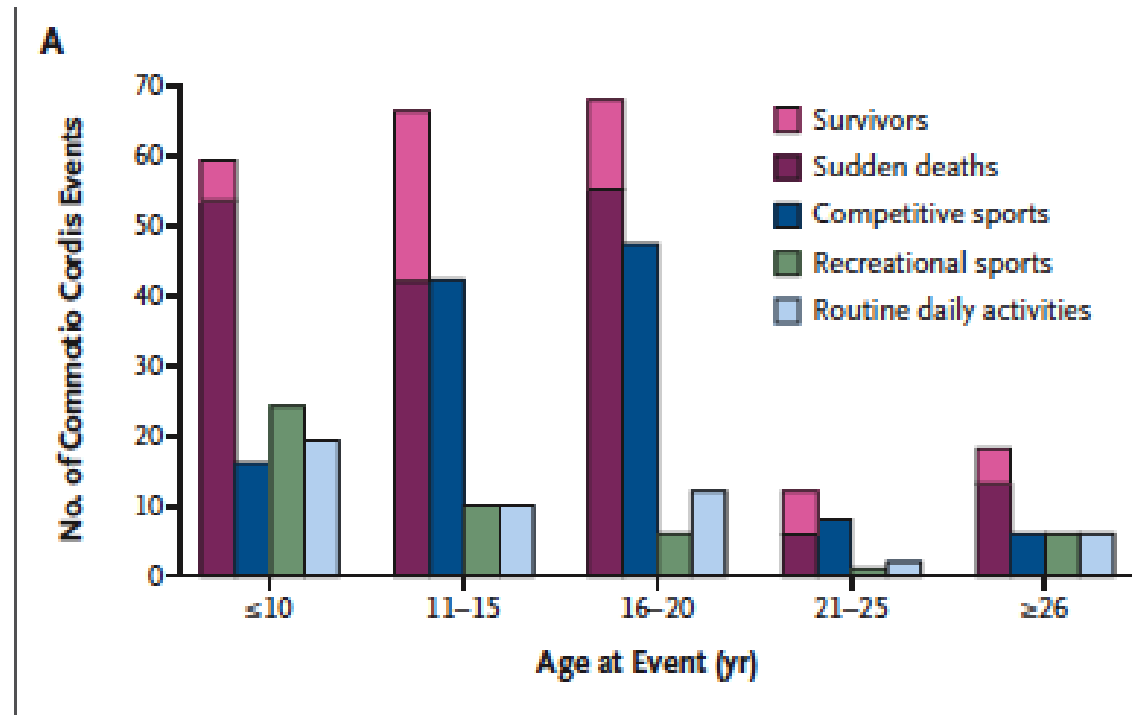


Figure 1. Distribution of Commotio Cordis Events According to Age and Activity.

Panel A shows the distribution of commotio cordis events according to age and type of activity in 224 cases from the National Commotio Cordis Registry recorded over the past 15 years.^{1,2,19} Panel B shows the distribution of such events according to the particular sport.

Commotio Cordis : Minneapolis

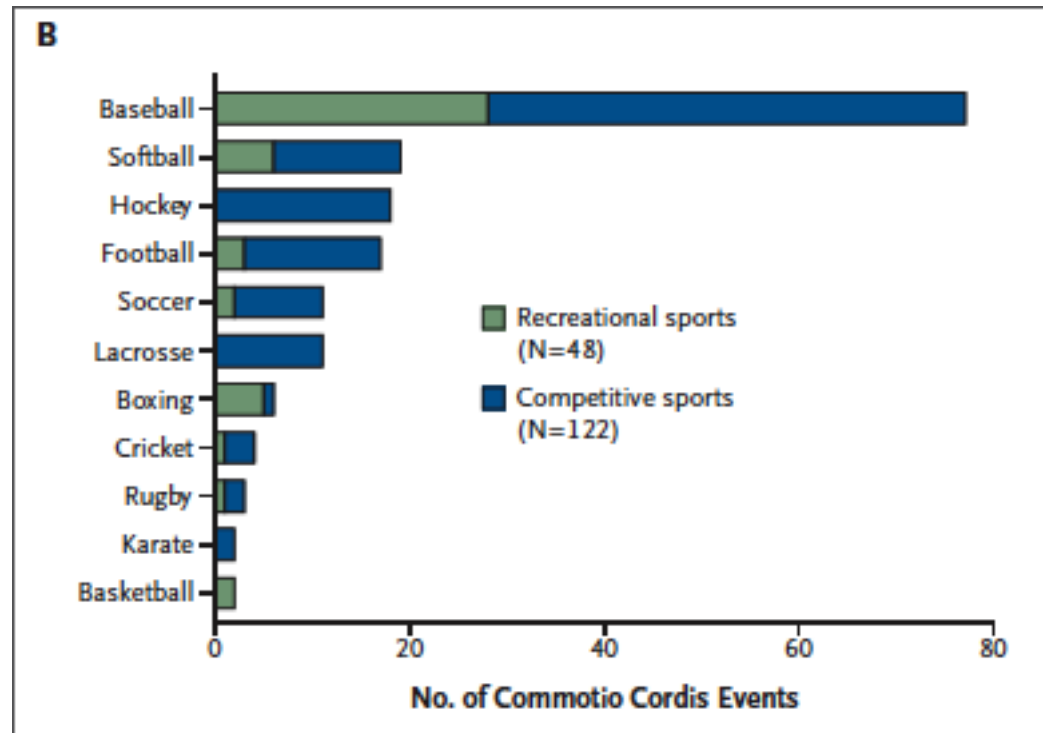
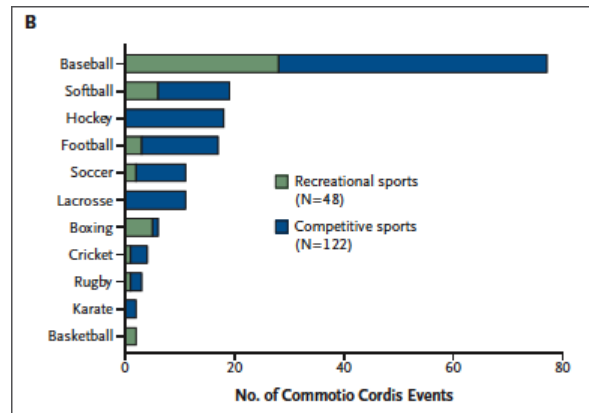


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Commotio Cordis : Minneapolis



Softball



Lacrosse



Commotio Cordis : Minneapolis

- 50% sport de compétition
- 25% sport amateur
- 25% autres activités

Commotio Cordis : Minneapolis

Fights and scuffles, with blow from hand or elbow

Psychiatric aide struck by patient

Teacher struck while restraining student during fight

Youth struck during play — shadowboxing or roughhousing

Youth struck by boxing glove during sparring

Child struck by parent or babysitter (with disciplinary intent)

Young adult struck during slam dancing

Student involved in fist fight at fraternity party

Youth hit by snowball

Adult struck in prison gang initiation ritual

Infant struck with open hand while having diaper changed

Other circumstances

Child kicked by horse

Youth hit with recoil of gun butt while deer hunting

Child hit with rebound of playground swing

Adult thrown against steering wheel during automobile accident

Youth hit by tennis ball filled with coins

Young adult kicked during cheerleading routine

Adult received chest blow by falling into body of water

Child received blow from head of 23-kg (50-lb) pet dog

Child received blow from falling on playground apparatus

Child hit by tossed hollow plastic bat

Child hit by plastic sledding saucer

Youth received blow intended to terminate hiccups

Child hit handlebars while falling off bicycle

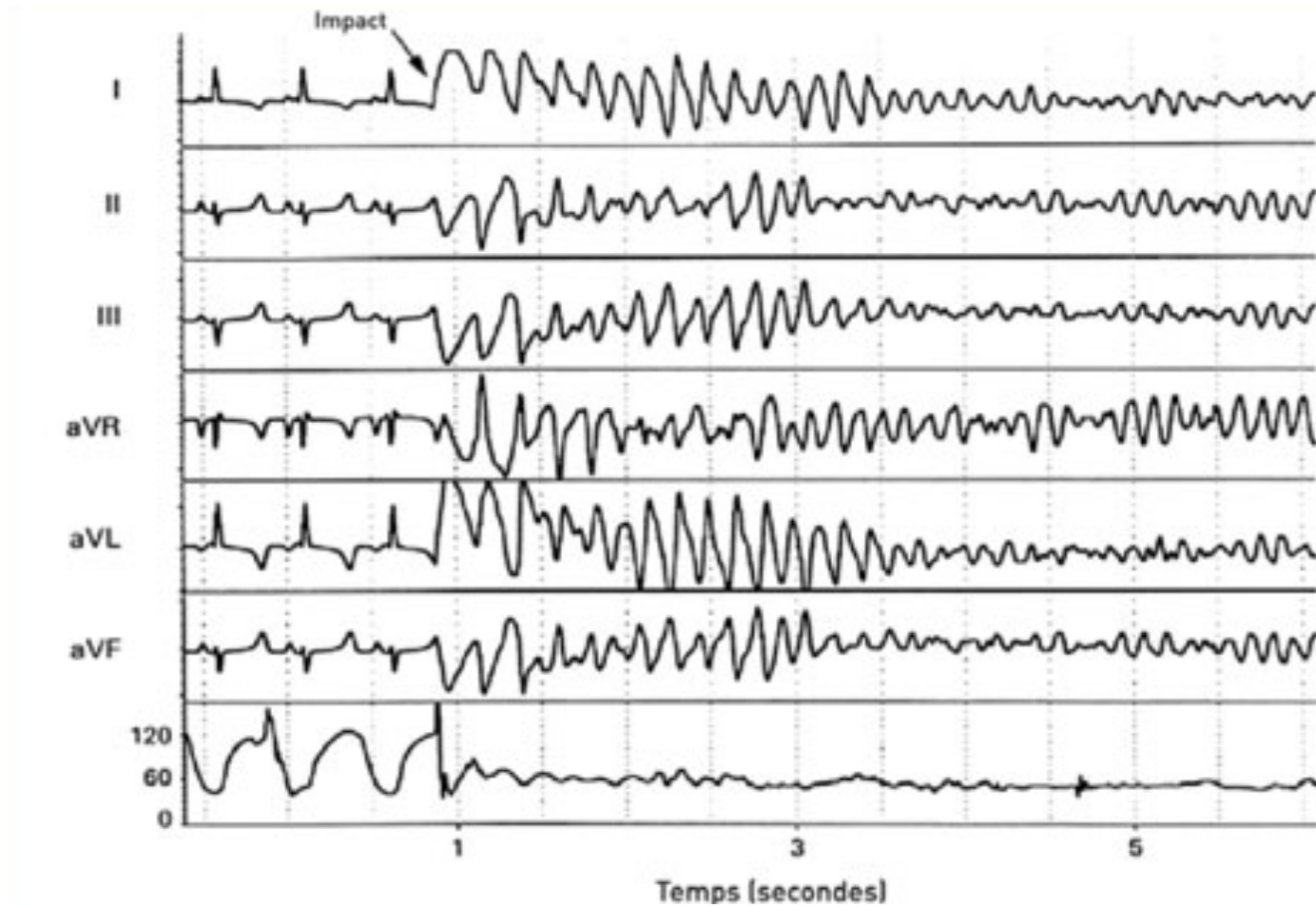
Commotio Cordis : épidémiologie

- Etudes discordantes
- Burke : 288 MS ; CMH, An Cor.... autres (dont CC) : 4%
- Maron 2003 : 387 MS ; CMH 26%, CC 20%
- Corrado 2003 : 55 MS ; DVDA 24%, Coronaropathie 20% ... CMH 0,2%, CC 0%

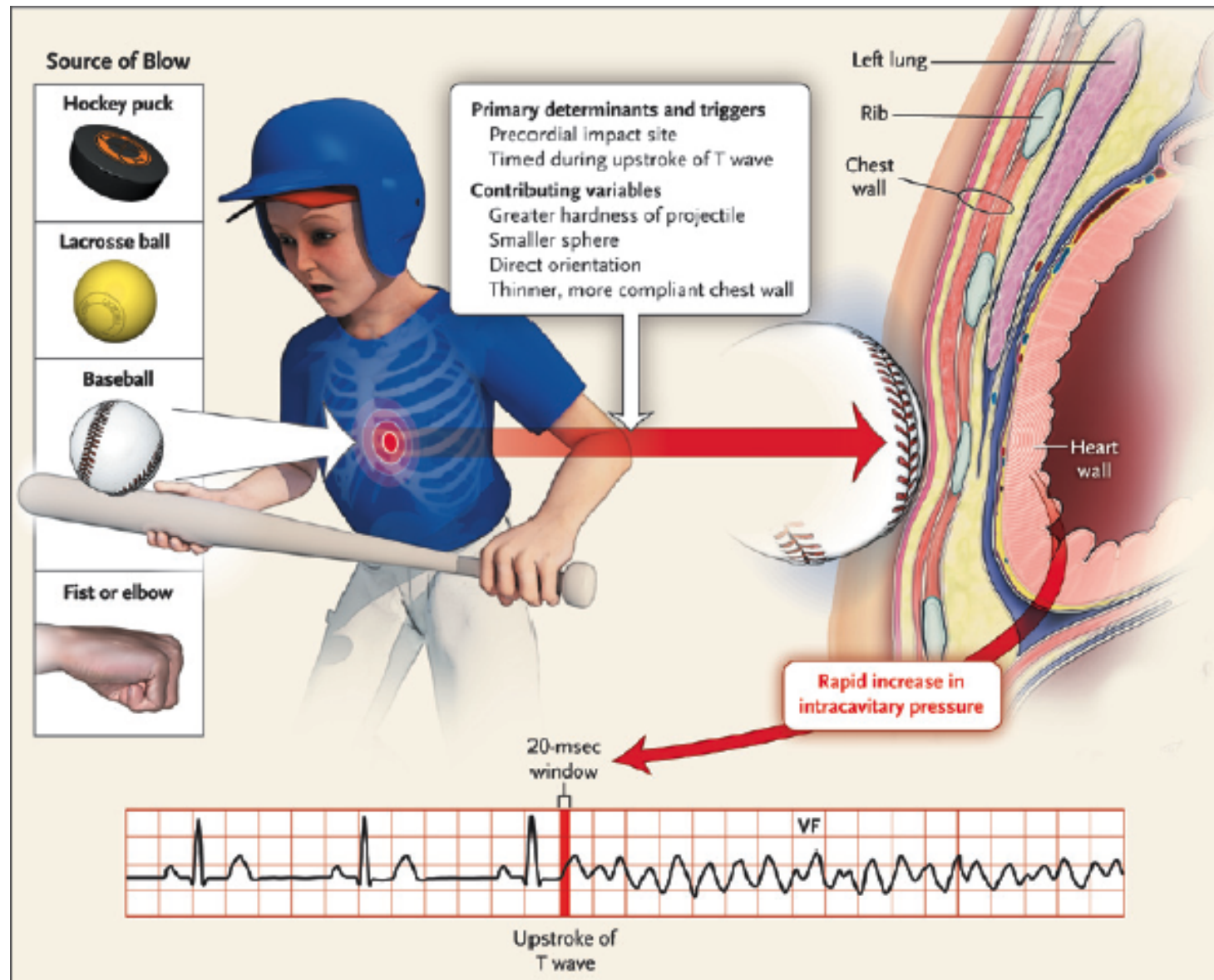
Commotio Cordis : mécanisme

- Hypothèses XIXième siècle : hypertonie vagale, vasospasme...
- Modèles animaux : marteaux, balles... contusions++
- Modélisations efficaces récentes (Link *NEJM* 1998 ; 338 : 1805-11)

Commotio Cordis : mécanisme



Commotio Cordis : mécanisme

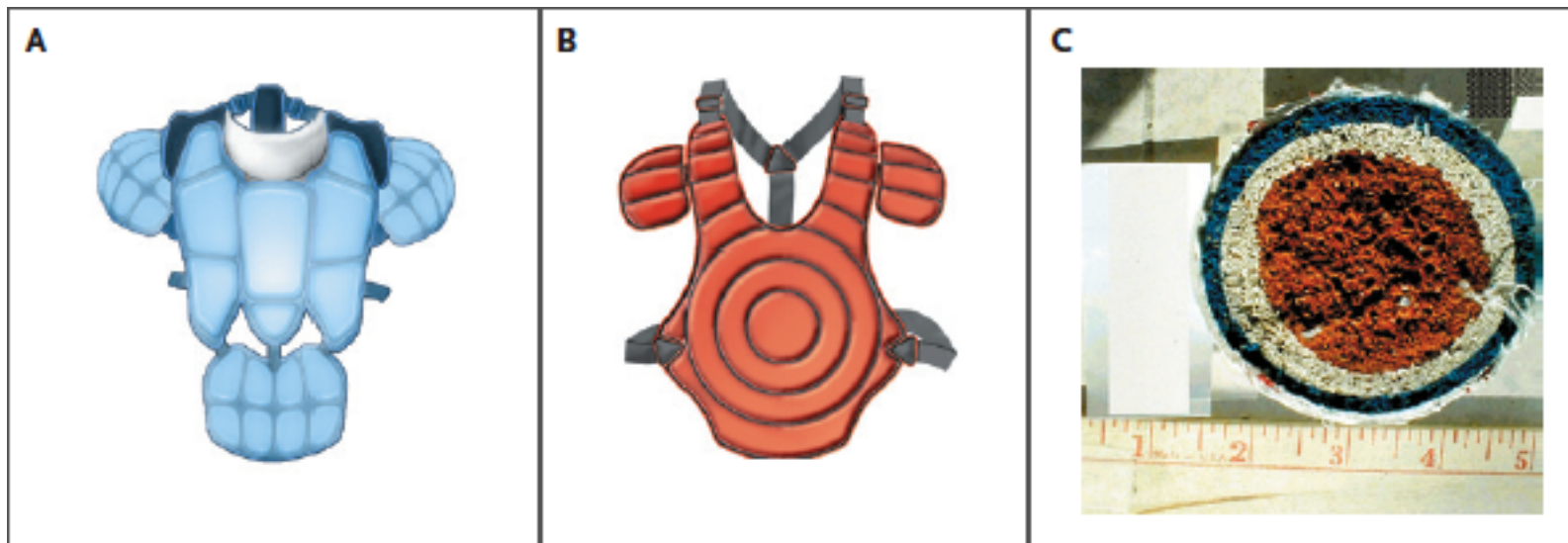


Commotio Cordis :pronostic

- Mortalité de 75% dans le registre Minneapolis...
85% dans certaines études
- 15% 2006 vs 58 % dans les six dernières années
([Heart Rhythm](#). 2013 Feb;10(2):219-23)
- DSA, éducation de la population...
- Population noire, sport hors compétition : FR
- Rares FV résolutes, BAV (choc pdt QRS)
- Pas de sur-risque rythmique chez les survivants

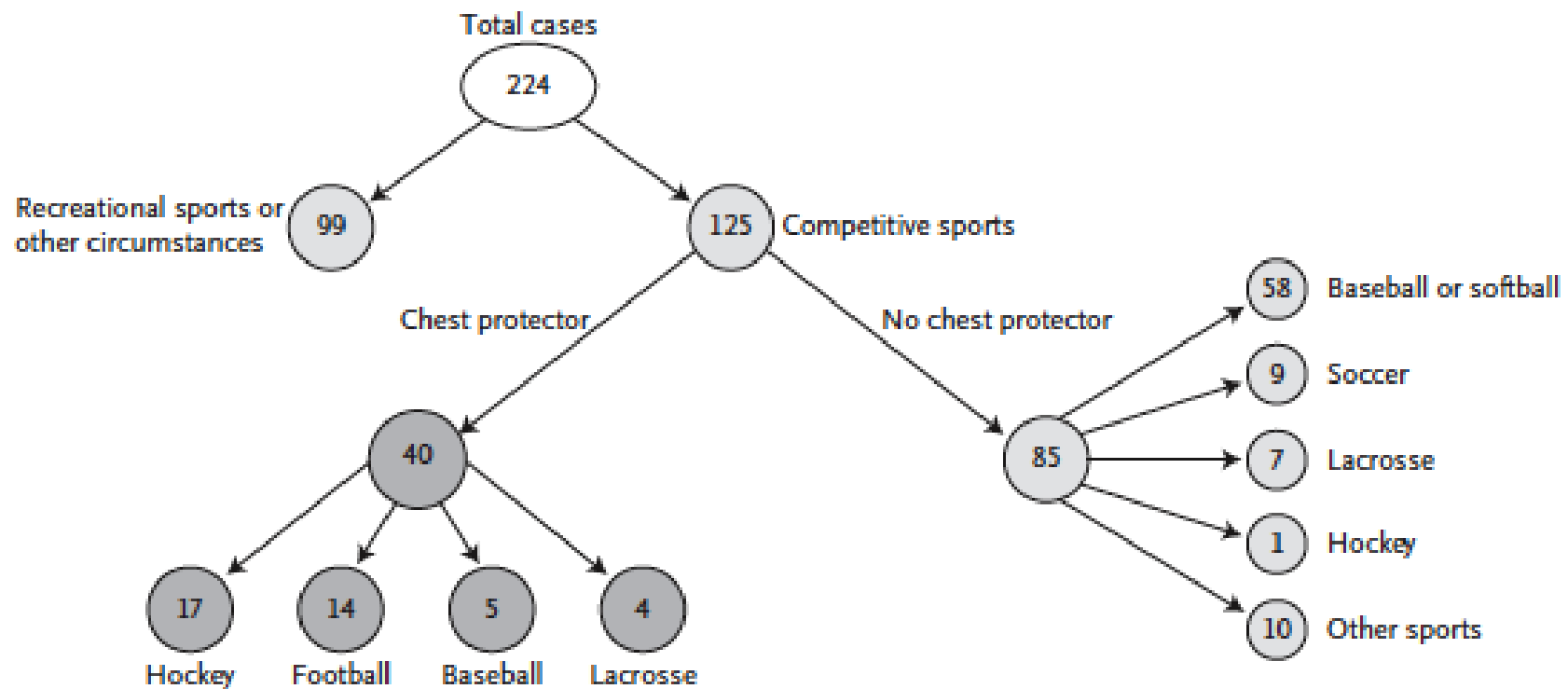
Commotio Cordis :prévention

- Prévention primaire :
 - Protections thoraciques (Hockey, Lacrosse)
 - Balles (softball...)



Commotio Cordis : Minneapolis

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Commotio Cordis :prévention

- Prévention secondaire :
 - DSA
 - Education ++
 - Pas de place du DAI...

Conclusions

- Fréquent aux USA, moins en Europe
- Enfants, choc thoracique
- Prévention primaire à développer...
- Réanimation++