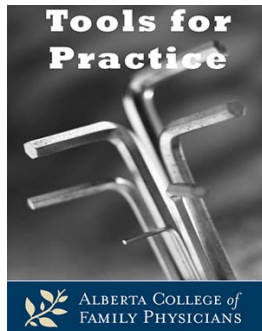


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Can I exchange my family because they all have heart attacks?

Clinical Question: What risks do different family histories of cardiovascular disease (CVD) carry?

Bottom-line: Family history of CVD modifies future CV risk depending on the number and age of affected first-degree relatives. Siblings of patients with CVD have a ~40% risk increase, while offspring of parents with premature CVD have a 60-75% increased risk. Consistent definitions of premature CVD would allow a better estimate of the true attributable risk.

Evidence:

When possible, odds ratios (OR) were converted to relative risks.

- Parental History:
 - 2,302 Framingham male and female offspring were analyzed for parental history of premature CVD (father <55 years, mother <65) and risk of future CVD.¹
 - After eight years of follow up, CVD increased 75% for paternal and ~60% for maternal history of premature CVD.
- Sibling History:
 - Using the same cohort over eight years, CVD increased ~40% in those with CVD in their siblings.²
 - In identical (or monozygotic) twins, the hazard ratio of death from coronary heart disease (CHD) increased by 3.8-15 times if an identical sibling died of CHD before age 75.³
 - Three times higher risk for identical than non-identical twins.
 - Greater risk the earlier the other twin died.³
- Extended Family History:
 - >49,000 US primarily Caucasian males were analyzed for CHD in extended family member (sibling, aunt/uncle, parent, or grandparent) and the risk of future CVD.⁴
 - After 16 years, those with a family history of premature CHD (age <50) had 44% increased risk of CVD mortality.
- Large international case-controlled study⁵ found statistically significant increased risk of Myocardial Infarction (MI) if:
 - One parent had MI, OR=1.67.
 - One parent had MI at age <50, OR=2.36.
 - Both parents had MI, OR=2.90.

- Both parents had MI at age <50, OR=6.56.
- Results similar when adjusted for CVD risk factors, across socio-economic status of household or country and for maternal or paternal MI history.

Context:

- Current guidelines use different definitions of and adjustments for family history of premature CVD.⁶⁻⁹
- Many middle aged patients with first degree relative(s) with premature CVD will have their calculated CV risk increased to level where statin therapy should be considered.

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Disclosure:

Authors have no conflicts to disclose.

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