



## Statins in Older Adults

### CLINICAL QUESTION

**In patients  $\geq 65$  years old, do the benefits of statins outweigh harms?**

### BOTTOM LINE

**For primary prevention patients aged 65-75 years, statins likely result in a 16-39% relative reduction in major adverse cardiac events (MACE). For primary prevention patients aged  $>75$ , the benefit of initiating statins is unclear. However, there is no evidence to support stopping statins when primary prevention patients age over 75 (just because of age). For secondary prevention patients over 65 years (and over 75), statins result in ~20% relative reduction in MACE. Adverse events are similar to placebo.**

### EVIDENCE

- Seven systematic reviews<sup>1-7</sup> of randomized controlled trials (RCTs) in a population age  $\geq 65$ .
  - Largest systematic review (26 RCTs, 186,854 patients, follow-up ~5 years) reported individualized patient data and analyzed by age (5-year categories) and by primary and secondary prevention.<sup>1</sup>
  - Results statistically significant, unless stated.
- Primary prevention:

- Major adverse cardiac events (largest systematic review):<sup>1</sup>
  - Patients >65 to <70 years: Relative risk (RR)=0.61 (0.51-0.73)
  - Patients >70 to <75 years: RR=0.84 (0.70-1.01)
  - Patients >75 years: RR=0.92 (0.73-1.16)
  - Another systematic review<sup>2</sup> found >65 (mean age 73): RR=0.82 (0.74-0.92)
  - Statins benefit on MACE appears to diminish in advanced age, with benefits likely extending to age 75. Beyond 75 years, uncertainty exists.
- Mortality: No difference in all-cause mortality.<sup>2-4</sup>
- Secondary prevention:
  - MACE: ~20% relative benefit across all ages,<sup>1</sup> for example,
    - Patients 66-70 years: 4.3% versus 5.6% annually.<sup>1</sup>
    - Patients age >75 years: 6.0% versus 6.8% annually.<sup>1</sup>
  - Mortality: ~20% relative benefit in all-cause mortality.<sup>3,5</sup>
- Adverse events:
  - No difference in overall,<sup>6</sup> serious,<sup>2,6</sup> or discontinuation due to adverse events.<sup>2,6</sup>
    - While an early RCT<sup>7</sup> and systematic review<sup>8</sup> raised concerns about increased cancer risk, subsequent studies do not support this risk.<sup>1,4,9</sup>
    - No RCTs/observational evidence of association between statins and dementia.<sup>10</sup>

## CONTEXT

- Guideline definitions and recommendations vary for older adults.<sup>11-15</sup>
- MACE definitions vary between studies.
- Upcoming key trials:
  - STAREE:<sup>16</sup> ~10,000 primary prevention patients >70 years old determining effect of atorvastatin on death, disability, and MACE.
  - SITE:<sup>17</sup> ~1200 primary prevention patients >75 years determining effect of stopping statins on all-cause mortality.

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