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# RISK OF ALZHEIMER'S BASED ON APOE GENE STATUS

| Gene combination | Risk of getting Alzheimer's | Percentage of population carrying this gene combination | Other features of this combination |
|---|---|---|---|
| **E2 + E2** | These people have the lowest risk of getting Alzheimer's — estimated to be 40% less likely than people carrying E3 + E3. | 1% | These people tend to have higher blood triglyceride levels and an elevated risk of stomach ulcers, blood clots, aneurysms, recurrent miscarriages and hammer toe (hallux valgus). |
| **E2 + E3** | These people also have a lower risk of Alzheimer's than those with E3 + E3 — also close to 40% lower risk. | 10–15% | Nil of note. |
| **E3 + E3** | Neutral risk | 60% | Nil of note. |
| **E2 + E4** | These people have one anti-Alzheimer's gene and one pro-Alzheimer's gene. This tends to put them at a slightly higher risk of Alzheimer's than those with E3 + E3. | 2% | Carrying one E4 gene appears to be associated with a higher risk of stroke. |
| **E3 + E4** | Two-to four-fold higher risk than someone with E3 + E3<br>BUT<br>these people can neutralise the effect of having an E4 gene through physical exercise and other lifestyle measures. | 20–25% | Some studies indicate that having one copy of E4 may pose a greater risk of Alzheimer's to women than to men.<br>Having two copies of E4 seems to affect men and women to the same degree. |
| **E4 + E4** | >10-fold higher risk than someone with E3 + E3<br>BUT<br>these people can also neutralise the effect of having E4 genes through physical exercise and other lifestyle measures. | 2–3% | These people tend to have higher LDL- cholesterol levels but a lower risk of obesity, liver disease and chronic airway obstruction. |

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