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| **Supplemental table 7** Hazard ratios for the risk of diabetes by quintile of uncalibrated branched-chain amino acid (BCAA) intake, additionally adjusted for total meat intake |
|  | Intake (grams) | Percent caloric intake | Percent protein intake |
|  | Events | Ann% | HR (95% CI) \* | p-value† | Events | Ann% | HR (95% CI) | P-value | Events | Ann% | HR (95% CI) | P-value |
| Total BCAA |  |  |  | 0·004 |  |  |  | 0·001 |  |  |  | 0·002 |
|  Q1 | 2043 | 0·88 | 1·00 (ref) |  | 2083 | 0·91 | 1·00 (ref) |  | 2100 | 0·88 | 1·00 (ref) |  |
|  Q2 vs· Q1 | 2023 | 0·86 | 1·01 (0·94, 1·08) |  | 2186 | 0·88 | 0·97 (0·91, 1·03) |  | 2246 | 0·99 | 1·03 (0·97, 1·09) |  |
|  Q3 vs· Q1 | 2186 | 0·90 | 1·04 (0·96, 1·13) |  | 2209 | 0·92 | 1·00 (0·94, 1·07) |  | 2388 | 0·98 | 1·03 (0·97, 1·10) |  |
|  Q4 vs· Q1 | 2242 | 0·95 | 1·07 (0·98, 1·18) |  | 2315 | 0·98 | 1·04 (0·97, 1·11) |  | 2292 | 0·98 | 1·07 (1·00, 1·14) |  |
|  Q5 vs· Q1 | 2748 | 1·15 | 1·19 (1·06, 1·34) |  | 2449 | 1·06 | 1·11 (1·03, 1·19) |  | 2216 | 0·92 | 1·10 (1·03, 1·17) |  |
| Continuous ‡ |  |  | 1·07 (1·05, 1·09) | <0·001 |  |  | 1·11 (1·09, 1·13) | <0·001 |  |  | 1·20 (1·09, 1·32) | <0·001 |
| Leucine |  |  |  | 0·01 |  |  |  | <0·001 |  |  |  | <0·001 |
|  Q1 | 2016 | 0·88 | 1·00 (ref) |  | 2124 | 0·90 | 1·00 (ref) |  | 2086 | 0·88 | 1·00 (ref) |  |
|  Q2 vs· Q1 | 2097 | 0·87 | 1·01 (0·94, 1·08) |  | 1998 | 0·88 | 0·98 (0·92, 1·04) |  | 2379 | 1·00 | 1·05 (0·99, 1·11) |  |
|  Q3 vs· Q1 | 2158 | 0·89 | 1·02 (0·94, 1·11) |  | 2167 | 0·92 | 1·01 (0·95, 1·08) |  | 2328 | 0·98 | 1·04 (0·98, 1·11) |  |
|  Q4 vs· Q1 | 2317 | 0·96 | 1·07 (0·97, 1·17) |  | 2505 | 0·98 | 1·05 (0·98, 1·12) |  | 2251 | 0·95 | 1·06 (1·00, 1·13) |  |
|  Q5 vs· Q1 | 2654 | 1·15 | 1·17 (1·04, 1·32) |  | 2448 | 1·06 | 1·13 (1·05, 1·21) |  | 2198 | 0·94 | 1·12 (1·05, 1·20) |  |
| Continuous ‡ |  |  | 1·07 (1·05, 1·09) | <0·001 |  |  | 1·11 (1·09, 1·13) | <0·001 |  |  | 1·16 (1·06, 1·26) | <0·001 |
| Isoleucine |  |  |  | 0·002 |  |  |  | <0·001 |  |  |  | <0·001 |
|  Q1 | 2020 | 0·87 | 1·00 (ref) |  | 2066 | 0·89 | 1·00 (ref) |  | 1908 | 0·81 | 1·00 (ref) |  |
|  Q2 vs· Q1 | 2025 | 0·87 | 1·02 (0·95, 1·10) |  | 2175 | 0·88 | 0·99 (0·93, 1·05) |  | 2184 | 0·92 | 1·01 (0·95, 1·08) |  |
|  Q3 vs· Q1 | 2183 | 0·90 | 1·05 (0·97, 1·14) |  | 2169 | 0·92 | 1·01 (0·95, 1·08) |  | 2293 | 0·97 | 1·02 (0·96, 1·09) |  |
|  Q4 vs· Q1 | 2248 | 0·95 | 1·08 (0·99, 1·19) |  | 2286 | 0·98 | 1·06 (0·99, 1·13) |  | 2354 | 0·99 | 1·04 (0·97, 1·11) |  |
|  Q5 vs· Q1 | 2766 | 1·16 | 1·21 (1·08, 1·36) |  | 2546 | 1·09 | 1·13 (1·05, 1·22) |  | 2503 | 1·06 | 1·14 (1·07, 1·22) |  |
|  Continuous ‡ |  |  | 1·07 (1·05, 1·09) | <0·001 |  |  | 1·11 (1·09, 1·13) | <0·001 |  |  | 1·49 (1·34, 1·64) | <0·001 |
| Valine |  |  |  | 0·04 |  |  |  | 0·001 |  |  |  | 0·18 |
|  Q1 | 2062 | 0·90 | 1·00 (ref) |  | 2052 | 0·91 | 1·00 (ref) |  | 2188 | 0·95 | 1·00 (ref) |  |
|  Q2 vs· Q1 | 2034 | 0·86 | 0·99 (0·92, 1·06) |  | 2284 | 0·91 | 1·01 (0·95, 1·08) |  | 2362 | 1·00 | 1·00 (0·95, 1·06) |  |
|  Q3 vs· Q1 | 2232 | 0·91 | 1·03 (0·95, 1·11) |  | 2025 | 0·92 | 1·00 (0·94, 1·07) |  | 2328 | 0·99 | 1·03 (0·97, 1·09) |  |
|  Q4 vs· Q1 | 2226 | 0·94 | 1·03 (0·94, 1·13) |  | 2381 | 0·97 | 1·05 (0·98, 1·12) |  | 2311 | 0·97 | 1·07 (1·01, 1·14) |  |
|  Q5 vs· Q1 | 2688 | 1·14 | 1·14 (1·01, 1·28) |  | 2500 | 1·05 | 1·13 (1·05, 1·21) |  | 2053 | 0·85 | 1·03 (0·96, 1·10) |  |
|  Continuous‡ |  |  | 1·07 (1·05, 1·09) | <0·001 |  |  | 1·11 (1·09, 1·13) | <0·001 |  |  | 1·00 (0·92, 1·09) | 0·95 |
| \*Hazard ratios and confidence intervals from proportional hazards models with incident diabetes as a function of the protein variable of interest adjusted for age, ethnicity, BMI, education, income, history of CHD, current smoking, current alcohol use, hypertension, physical activity, family history of diabetes, hormone use, glycemic load, glycemic index, total energy intake, and total meat intake· Models are additionally stratified within the model for WHI intervention arms and 5-year age groups†p-values for categorical protein variables are from a separate model looking at linear trend over the medians of each quintile· ‡Hazard ratios, confidence intervals, and p-values in the continuous models for a 20% increase of the protein value of interest |