



## 2025 LIFE EXPECTANCY FOR TORT DAMAGE CALCULATIONS

### Introduction

Life Expectancy varies not only by age and gender, but also by the year of birth. A period life expectancy assumes no improvement from current observed mortality over time. However, since the 1970s life expectancy has increased by over a decade. Clearly a better estimate for an individual can be produced by taking trends in mortality into account. This is called cohort life expectancy. The latest life table released in late December 2024 by the Australian Government Actuary is Australian Life Table 2020-22 (ALT2020-22). Precise technical details of how this is used in the calculations below is set out at the end of this note.

### 2025 Life Expectancy Values

For tort damage calculations in 2025, life expectancy can be taken as the following number of years:

Age	Male	Female
15	74.959	77.148
16	73.871	76.083
17	72.788	75.019
18	71.711	73.956
19	70.637	72.894
20	69.564	71.832
21	68.491	70.769
22	67.418	69.705
23	66.344	68.640
24	65.271	67.575
25	64.197	66.509
26	63.124	65.442
27	62.051	64.374
28	60.977	63.306
29	59.903	62.238
30	58.830	61.170
31	57.756	60.101
32	56.682	59.033
33	55.608	57.965
34	54.535	56.898

Age	Male	Female
35	53.461	55.831
36	52.389	54.766
37	51.317	53.701
38	50.246	52.637
39	49.177	51.575
40	48.109	50.514
41	47.042	49.454
42	45.978	48.396
43	44.916	47.339
44	43.857	46.285
45	42.800	45.232
46	41.746	44.182
47	40.695	43.133
48	39.648	42.087
49	38.603	41.043
50	37.563	40.001
51	36.526	38.962
52	35.494	37.926
53	34.466	36.892
54	33.442	35.861

Age	Male	Female
55	32.424	34.833
56	31.410	33.808
57	30.402	32.787
58	29.401	31.769
59	28.405	30.755
60	27.417	29.745
61	26.435	28.740
62	25.461	27.740
63	24.494	26.746
64	23.535	25.757
65	22.584	24.774
66	21.642	23.798
67	20.710	22.827
68	19.787	21.864
69	18.877	20.911
70	17.979	19.970
71	17.094	19.040
72	16.224	18.121
73	15.370	17.214
74	14.533	16.320

### Technical Information and Formulae

Results are built up from the probability of a person aged exactly  $x$  dying before age  $(x+1)$  i.e.  $q_x(t)$

The calculations allow for anticipated mortality improvement, a principle established in *Golden Eagle International Trading Pty Ltd v Zhang* [2007] HCA 15 and other judgments. I have used the latest Australian Life Table 2020-22 as published by the Australian Government Actuary and 25-year trend improvement factors. While the ABS releases their life tables in early November of the year following the end of the investigation period, given the relatively brief period between the end of the investigation period and the publication date, the ABS is required to estimate the number of late reported deaths. ALT2020-22 uses data that is extracted around one year later than the ABS, thus an estimate of late reported deaths is not required. The process of incorporating future mortality improvements is expressed mathematically as  $q_x(t) = q_x(1+I_x/100)^{(t-2021)}$  where  $q_x(t)$  is the mortality rate at age  $x$  in year  $t$  and  $I_x$  is the assumed rate of improvement at age  $x$ .



The average number of years lived after age  $x$  of persons aged exactly  $x$  i.e. life expectancy is expressed as  $\dot{e}_x$ . The circle indicates that fractions of a year is included – complete life expectancy. It is calculated as:

$$\dot{e}_x = (\sum_{t=1}^{109} l_{x+t}) / l_x + \frac{1}{2} + \frac{1}{12} \mu_x \text{ where}$$

$$\mu_x = [ 7 (d_{x-1} + d_x) - (d_{x-2} + d_{x+1}) ] / 12l_x$$

$$d_x = l_x q_x \text{ and}$$

$$l_{x+1} = l_x - d_x$$

If you need life expectancy at ages less than 15, please contact NetActuary. There are special modifications to the above formula for the period shortly after birth due to the pattern of perinatal mortality.

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