

Box 1 | Estimating the number of male germ-cell divisions

We can estimate the number of germ-cell divisions in a male of age A as follows. There are an estimated 30 cell divisions before puberty and then one stem cell division every 16 days, or 23 per year. Then, before sperm formation there are four mitotic and two meiotic divisions (one chromosome replication). Letting N_A be the number of germline chromosome replications at age A , N_p the number at puberty and A_p the age at puberty, taken to be 15 years,

$$N_A = N_p + 23(A - A_p) + 4 + 1 = 35 + 23(A - 15).$$

This calculation gives the following results.

Age	Chromosome replications
15	35
20	150
30	380
40	610
50	840