

# Word for Word

## When to use “survival,” “survival time,” and “survival rate”

In biomedical writing, the concept of survival can be used in any of several contexts and accordingly can have diverse meanings. This entry will clarify the distinctions among *survival*, *survival time*, and *survival rate*. Furthermore, it will focus on *overall survival* rather than *disease-specific survival*, *disease-free survival*, or any other category of survival. For brevity's sake, *overall* will be assumed rather than repeatedly stated.

In general and biomedical contexts, the term *survival* is defined as the act or fact of living or continuing longer than another person or thing or, more simply, the continuation of life or existence. Used alone, *survival* does not address or capture the concept of time.

**Correct:** The malnourished patient depended upon adequate nutritional intake for his survival.

**Incorrect:** Patients in treatment group 1 had better survival than did patients in group 2. (This is not specific enough. The author needs to specify what aspect of survival he/she is referring to [e.g., survival duration, survival rate, quality of life].)

*Survival time* (or *survival duration*) is the period elapsing (measured as the duration or amount of time) between the institution or completion of any procedure and death. *Survival time* and *survival duration* may be used interchangeably; either specifically captures the concept of time and can be used when expressing how much time has passed between a designated procedure or event and death.

**Correct:** After treatment, the survival duration of patient 6 was 8 months.

**Correct:** The median survival time of treated patients in group 1 was 6 months.

**Incorrect:** Survival time was different in patients in group 1. (This is not specific enough. The author needs to specify whether survival time was longer or shorter [rather than just different], clarify what group the patients in group 1 are being compared with, and, preferably, indicate the survival times being compared and whether the difference was statistically significant [with a *P* value].)

*Survival rate* refers to the percentage of people in a study or treatment group who are alive for a specified period of time after they were diagnosed with or treated for a disease, such as cancer. For example, if the 5-year survival rate for patients with a particular cancer is 35%, this means that 35 of 100 people initially diagnosed with that cancer would be alive at 5 years. *Survival rate* does not indicate whether a disease is cured or whether treatment is completed.

**Correct:** Patients treated with surgery plus chemotherapy had a higher 5-year survival rate (50%) than did patients who received chemotherapy alone (35%).

**Incorrect:** Patients treated with chemotherapy only had a 35% survival rate. (The period of time used to calculate this rate needs to be specified.)

### Bibliography

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