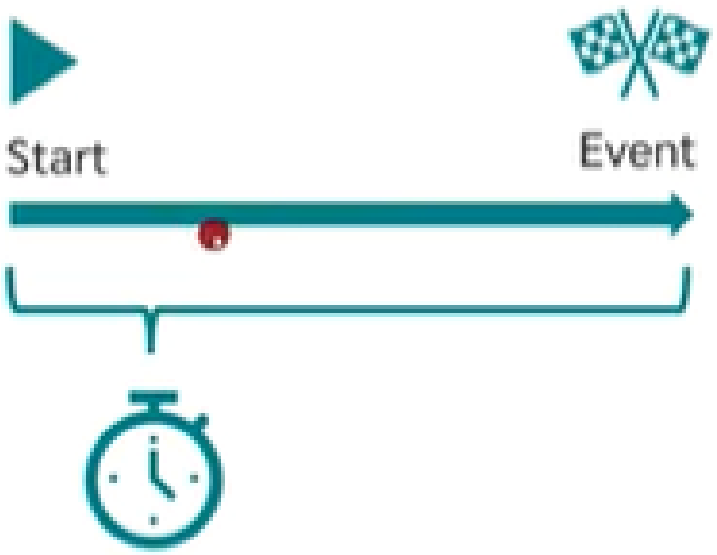
Survival Analysis

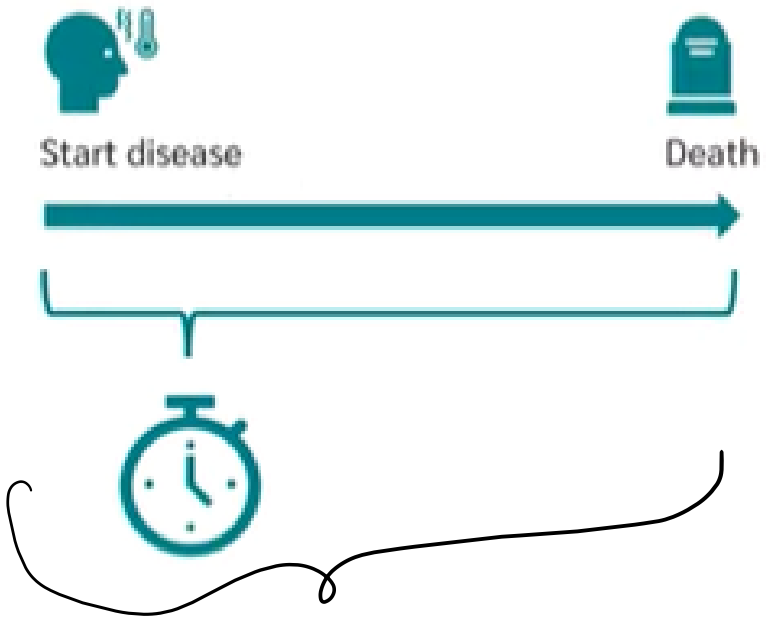
Survival time analysis is a group of statistical methods...

... in which the variable studied is the time until an event occurs.

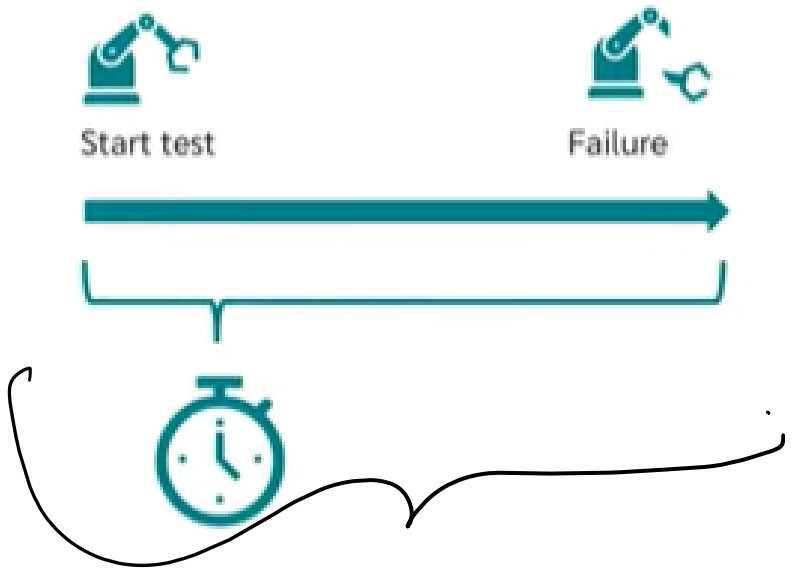


Example

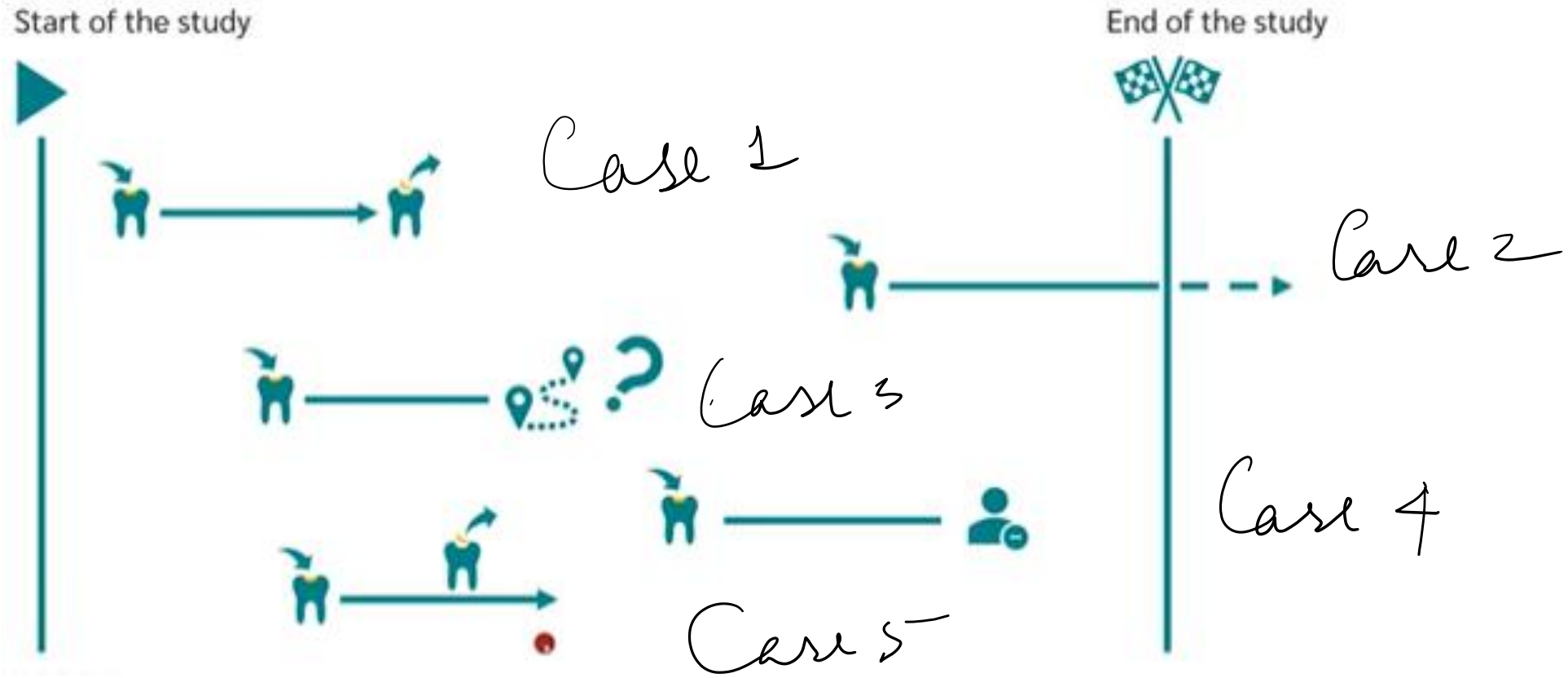
Time until death after an illness



Time to failure of a component in a test rig



Example - Study

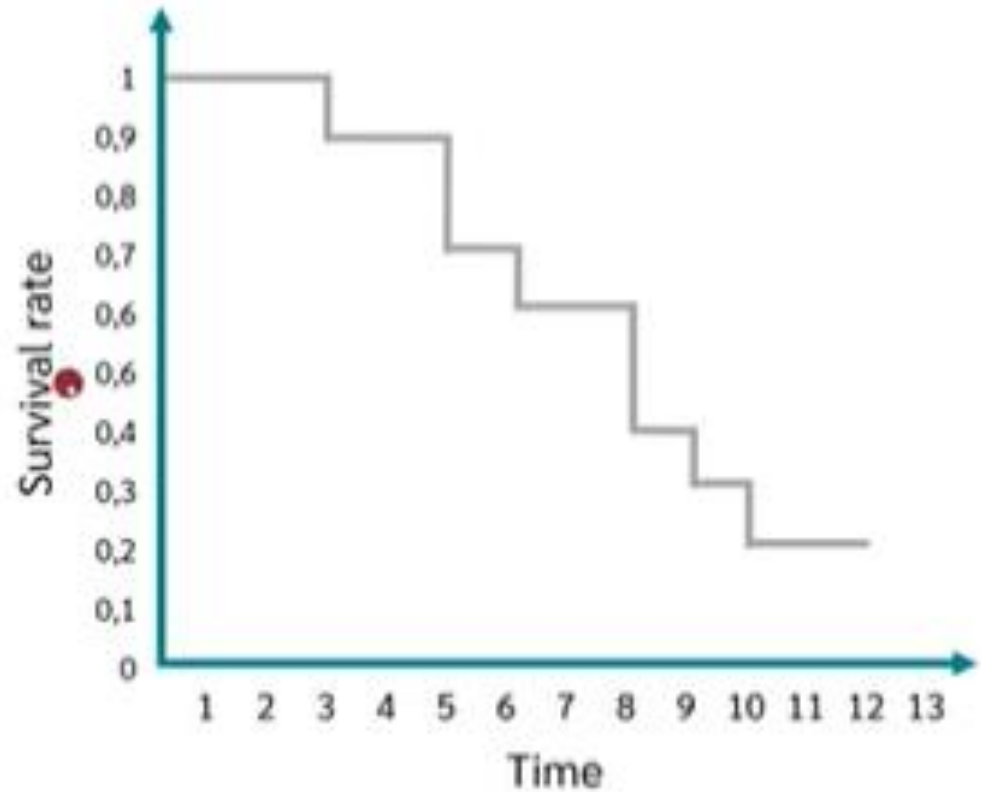


Kaplan Meier Curve

The Kaplan Meier curve is used to graphically represent the survival rate or survival function.

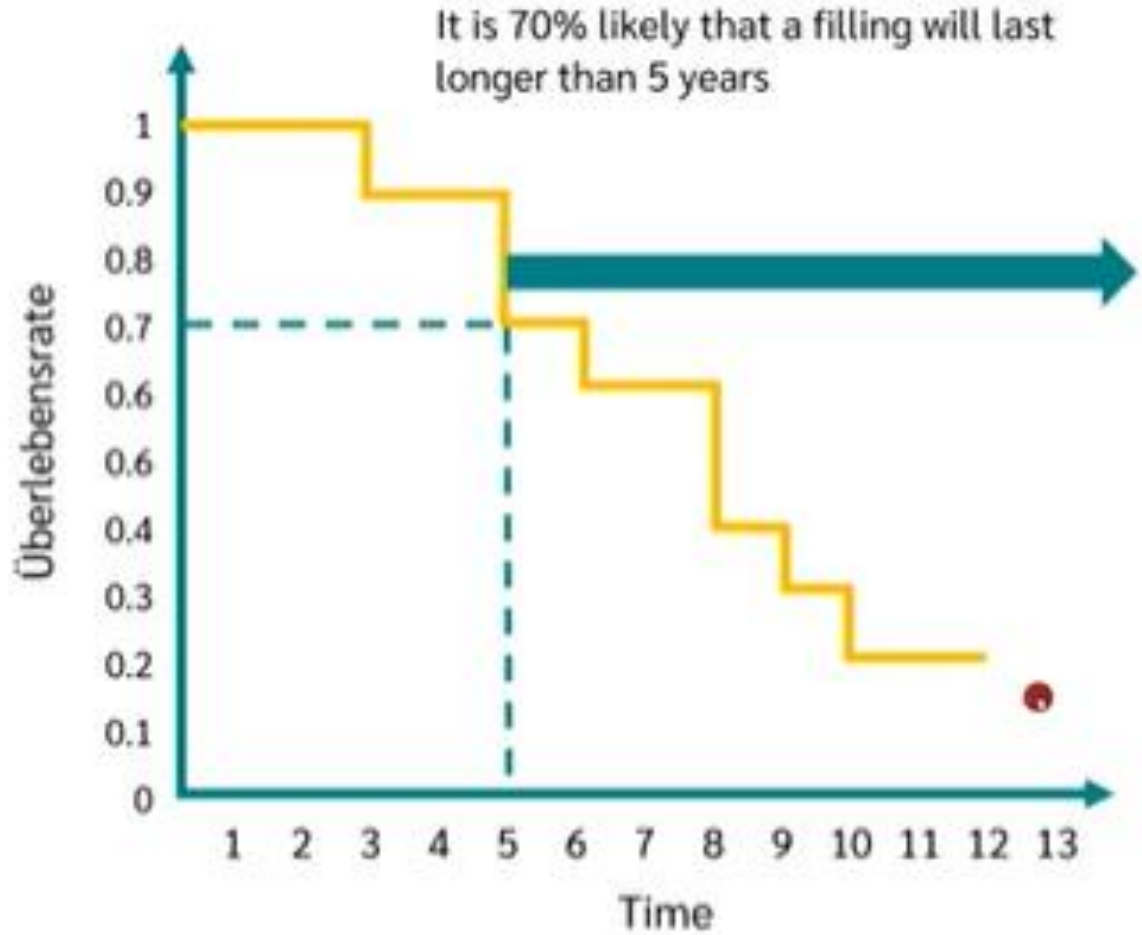
Here, the time is entered on the X-axis...

... and the survival rate on the Y-axis.



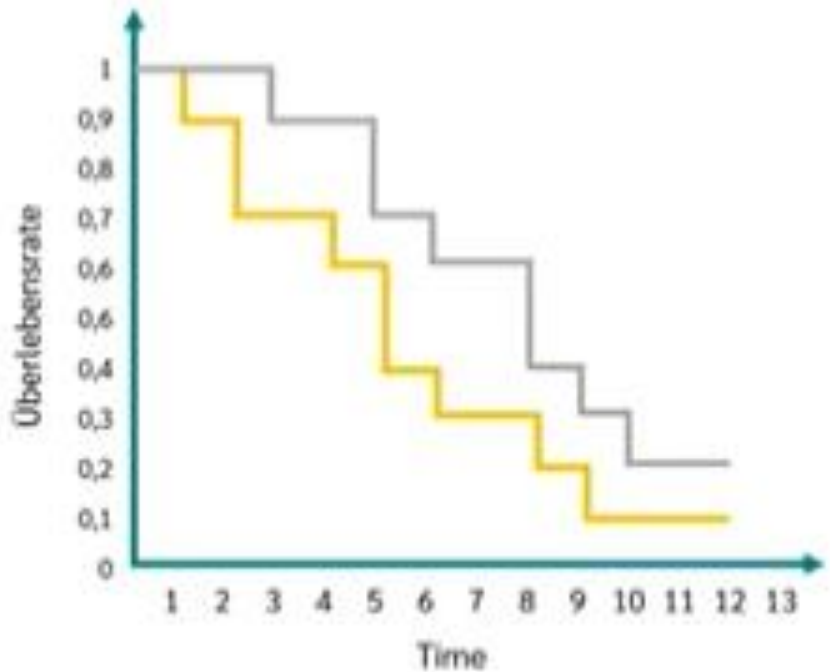
The Kaplan Meier curve tells you...

...how likely it is that a filling will last longer than a certain point in time.



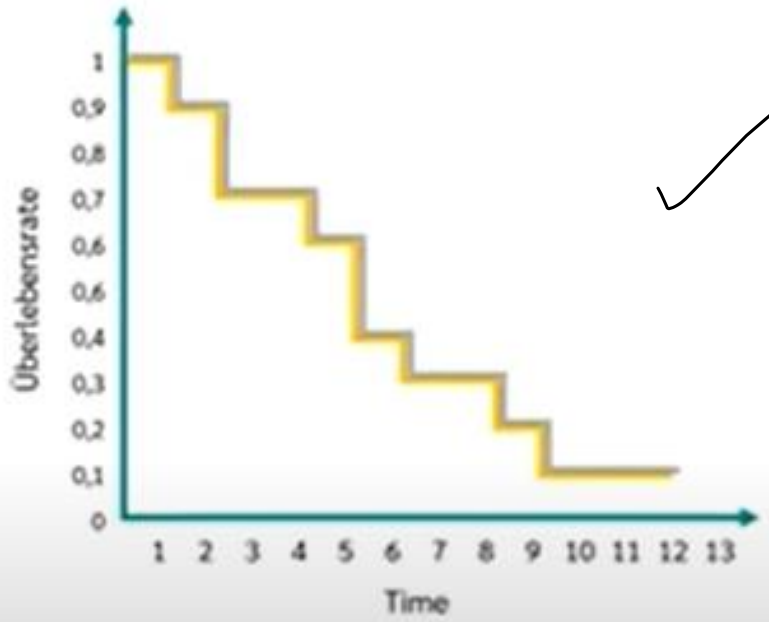
The Log Rank Test compares...

...the distribution of the time until an event occurs of two or more independent samples.



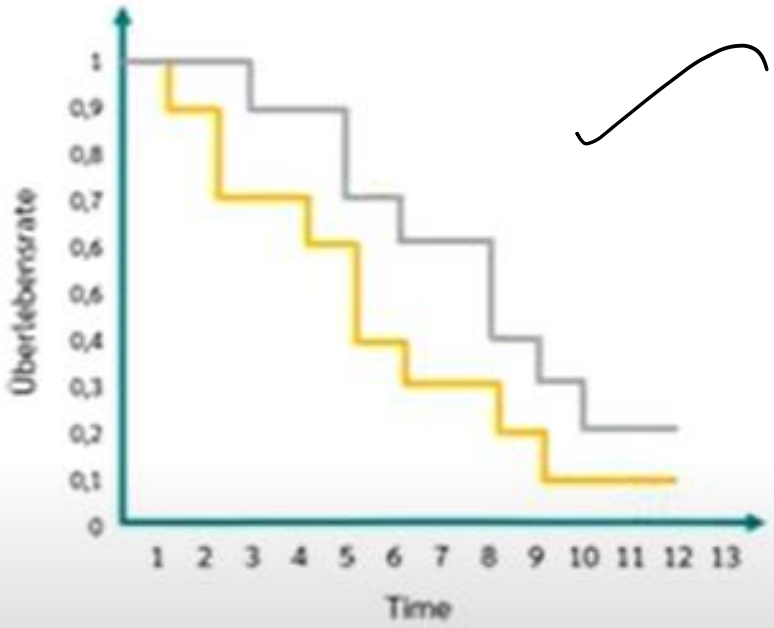
Null hypothesis:

The groups have identical distribution curves.



Alternative hypothesis:

The groups have different distribution curves.



Log Rank Test

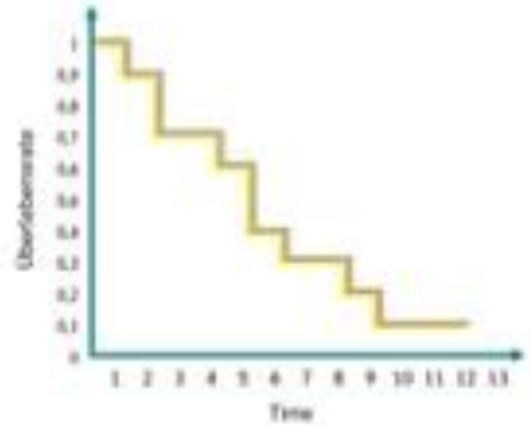
1. p-value

2. p-value greater than 0.05?

- Yes — Null hypothesis is retained — Both groups have identical distribution curves
- No — Null hypothesis is rejected

Statistics procedure

decision



Result