

Patient #	Enrollment Date	Last Follow up Date	Survival Status	Date of death	Censor vs. Event
1	1/5/12	6/17/13	Alive		
2	1/9/12	6/3/13	Alive		
3	2/16/12	4/3/13	Deceased	4/3/13	
4	3/2/12	5/12/13	Deceased	5/2/13	
5	3/28/12	9/27/13	Alive		
6	5/1/12	2/28/13	Deceased	2/28/13	
7	5/18/12	11/12/13	Alive		
8	5/29/12	12/2/13	Alive		
9	6/15/12	11/10/13	Deceased	11/10/13	
10	6/25/12	7/17/13	Deceased	7/17/13	

Step 1. Determine time (# of months) each patient remains in the data set before being censored or before dying (event)

Patient #	Duration of follow up	# of months	Censor vs. Event
1	6/17/13 - 1/5/12	17	Censored
2	6/3/13 - 1/9/12	16	Censored
3	4/3/13 - 2/16/12	13	Event
4	5/12/13 - 3/2/12	14	Event
5	9/27/13 - 3/28/12	17	Censored
6	2/28/13 - 5/1/12	9	Event
7	11/12/13 - 5/18/12	17	Censored
8	12/2/13 - 5/29/12	18	Censored
9	11/10/13 - 6/15/12	16	Event
10	7/17/13 - 6/25/12	12	Event

Step 2. Reorganize the data in order of shortest time in study to longest time in study

Patient #	# of months	Censor vs. Event
6	9	Event
10	12	Event
3	13	Event
4	14	Event
2	16	Censored
9	16	Event
1	17	Censored
5	17	Censored
7	17	Censored
8	18	Censored

Step 3. Look at time intervals (time passing between changes in the number of patients remaining in the study)

Time Interval	Number of patients at risk just before time interval	Number of deaths during time interval	Number of patients CENSORED during the interval	Number of patients SURVIVING at the end of time interval
0 - 9 months	10			9
9 - 12 months	9 alive, none censored			8
12 - 13 months	8 alive, none censored			7
13 - 14 months	7 alive, none censored			6
14 - 16 months	6 - 1 - 1 = 4 5 alive, 1 censored			5
16 - 17 months	4 - 0 - 3 = 1 4 alive, 0 censored			4
17 - 18 months	1			1

Step 4. Kaplan-Meier estimate is calculated as a probability estimate for each time period (except the 1st) as a compound conditional probability

Time Interval	Number of patients at risk just before time interval	Number of deaths during time interval	Number of patients CENSORED during the interval	Number of patients SURVIVING at the end of time interval	
0 - 9 months	10	1	0	9	$9/10 = 0.9$
9 - 12 months	9	1	0	8	$(9/10) * (8/9)$ $0.9 * 0.89 = 0.8$
12 - 13 months	8	1	0	7	$(9/10) * (8/9) * (7/8)$ $0.9 * 0.89 * 0.875 = 0.7$

13 - 14 months	7	1	0	6	$(9/10)*(8/9)*(7/8)*(6/7)$ $0.9*0.89*0.875*0.857 = 0.6$
14 - 16 months	6	1	1	5	$(9/10)*(8/9)*(7/8)*(6/7)*(5/6)$ $0.9*0.89*0.875*0.857*0.83 = 0.5$
16 - 17 months	4	0	3	4	$(9/10)*(8/9)*(7/8)*(6/7)*(5/6)*(4/4)$ $0.9*0.89*0.875*0.857*0.83*1 = 0.5$
17 - 18 months	1	0	1	1	$(9/10)*(8/9)*(7/8)*(6/7)*(5/6)*(4/4)*(1/1)$ $0.9*0.89*0.875*0.857*0.83*1*1 = 0.5$