

Analysis of the effect of age on the development and duration of anti-anthrax post-vaccination immunity (Age vs. TNA).

Statistical analysis was performed using a Two-way ANOVA with Tukey's multiple comparison (determination of significance and confidence intervals). The histograms show the mean and the confidence interval (CI) as an interval estimate of the general frame.

	Months after Vaccination				Nonvaccinated
	1-3	4-8	9-11	>12	
Viability (%) in TNA assay for the serum in the group ages 20-40	31	20	12	31	23
	39	42	39	12	12
	48	38	26	26	17
	50	39	79	48	14
	43	45	44	21	21
	53	29	37	26	12
	72	23	17	5	10
	30	37	14	30	16
	22	50	51		9
	37	34	41		17
		18	29		
		33			
Viability (%) in TNA assay for the serum in the group ages 40-60	40	26	41	28	14
	56	65	37	70	8
	51	19	42	40	13
	69	42	57	43	9
	27	34		29	7
	43	52		26	14
		16		26	7
				58	12
				14	12
					11
					9

Two-Way ANOVA						
Table Analyzed	Age vs. TNA					
	Ordinary					
Alpha	0,05					
Source of Variation	% of total variation	P value	P value summary	Significant?		
Interaction	2,909	0,3778	ns	No		
Row Factor	43,61	< 0,0001	****	Yes		
Column Factor	1,765	0,1114	ns	No		
ANOVA table	SS	DF	MS	F (DFn, DFd)	P value	
Interaction	748	4	187	F (4, 78) = 1,069	P = 0,3778	
Row Factor	11213	4	2803	F (4, 78) = 16,02	P < 0,0001	
Column Factor	453,7	1	453,7	F (1, 78) = 2,593	P = 0,1114	
Residual	13649	78	175			
Number of missing values	32					

ANOVA Multiple Comparison								
Number of families	1							
Number of comparisons per family	10							
Alpha	0,05							
Tukey's multiple comparisons test	Mean Diff,	95% CI of diff,	Significant?	Summary				
<i>20-40 years</i>								
1-3 vs. 4-8	8,5	-7,317 to 24,32	No	ns				
1-3 vs. 9-12	7,199	-8,942 to 23,34	No	ns				
1-3 vs. >12	17,73	0,2048 to 35,25	Yes	*				
1-3 vs. Nonvaccinated	27,58	11,06 to 44,10	Yes	***				
4-8 vs. 9-12	-1,301	-16,72 to 14,12	No	ns				
4-8 vs. >12	9,228	-7,634 to 26,09	No	ns				
4-8 vs. Nonvaccinated	19,08	3,260 to 34,89	Yes	*				
9-12 vs. >12	10,53	-6,636 to 27,69	No	ns				
9-12 vs. Nonvaccinated	20,38	4,238 to 36,52	Yes	**				
>12 vs. Nonvaccinated	9,85	-7,673 to 27,37	No	ns				
<i>40-60 years</i>								
1-3 vs. 4-8	11,38	-9,171 to 31,93	No	ns				
1-3 vs. 9-12	3,543	-20,30 to 27,39	No	ns				
1-3 vs. >12	10,74	-8,734 to 30,21	No	ns				
1-3 vs. Nonvaccinated	37,26	18,51 to 56,01	Yes	****				
4-8 vs. 9-12	-7,838	-30,99 to 15,32	No	ns				
4-8 vs. >12	-0,6452	-19,26 to 17,97	No	ns				
4-8 vs. Nonvaccinated	25,88	8,017 to 43,74	Yes	**				
9-12 vs. >12	7,193	-15,01 to 29,39	No	ns				
9-12 vs. Nonvaccinated	33,72	12,15 to 55,29	Yes	***				
>12 vs. Nonvaccinated	26,52	9,919 to 43,13	Yes	***				
Test details	Mean 1	Mean 2	Mean Diff,	SE of diff,	N1	N2	q	DF
<i>20-40 years</i>								
1-3 vs. 4-8	42,5	34	8,5	5,664	10	12	2,122	78
1-3 vs. 9-11	42,5	35,3	7,199	5,78	10	11	1,761	78
1-3 vs. >12	42,5	24,77	17,73	6,275	10	8	3,996	78
1-3 vs. Nonvaccinated	42,5	14,92	27,58	5,916	10	10	6,592	78
4-8 vs. 9-11	34	35,3	-1,301	5,522	12	11	0,3333	78
4-8 vs. >12	34	24,77	9,228	6,038	12	8	2,161	78
4-8 vs. Nonvaccinated	34	14,92	19,08	5,664	12	10	4,763	78
9-11 vs. >12	35,3	24,77	10,53	6,147	11	8	2,422	78

9-11 vs. Nonvaccinated	35,3	14,92	20,38	5,78	11	10	4,986	78
>12 vs. Nonvaccinated	24,77	14,92	9,85	6,275	8	10	2,22	78
40-60 years								
1-3 vs. 4-8	47,67	36,29	11,38	7,359	6	7	2,187	78
1-3 vs. 9-11	47,67	44,12	3,543	8,539	6	4	0,5868	78
1-3 vs. >12	47,67	36,93	10,74	6,972	6	9	2,178	78
1-3 vs. Nonvaccinated	47,67	10,41	37,26	6,714	6	11	7,849	78
4-8 vs. 9-11	36,29	44,12	-7,838	8,291	7	4	1,337	78
4-8 vs. >12	36,29	36,93	-0,6452	6,666	7	9	0,1369	78
4-8 vs. Nonvaccinated	36,29	10,41	25,88	6,396	7	11	5,722	78
9-11 vs. >12	44,12	36,93	7,193	7,949	4	9	1,28	78
9-11 vs. Nonvaccinated	44,12	10,41	33,72	7,724	4	11	6,174	78
>12 vs. Nonvaccinated	36,93	10,41	26,52	5,946	9	11	6,309	78

