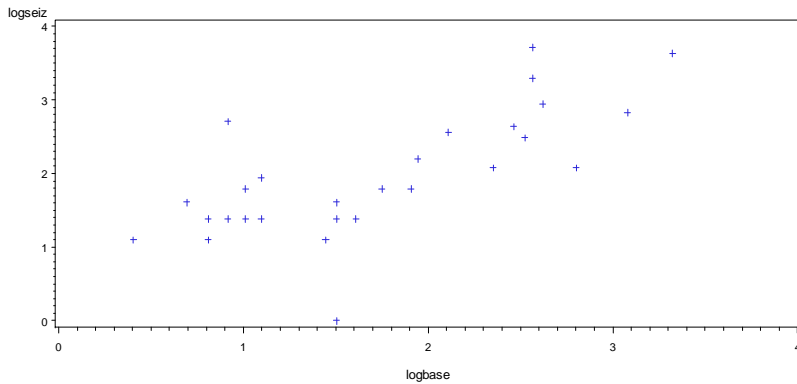


Epilepsy data after some manipulation to get them in shape for analysis
 First 12 observations

		b	s				p					l		l	t
		a	e				l					o	l	o	r
		s	i				a	t	t	t	t	g	o	g	t
		e	z				c	i	i	i	i	b	g	s	t
0		l	u	t			p	i	i	i	i	a	a	e	i
b	i	n	e	m	r	g	b	o	e	e	e	s	g	i	m
s	d	e	s	e	t	e	o	g	1	2	3	e	e	z	e
1	104	2.75	5	1	0	31	1	0	1	0	0	1.01160	3.43399	1.79176	01
2	106	2.75	3	1	0	30	1	0	1	0	0	1.01160	3.40120	1.38629	01
3	107	1.50	2	1	0	25	1	0	1	0	0	0.40547	3.21888	1.09861	01
4	114	2.00	4	1	0	36	1	0	1	0	0	0.69315	3.58352	1.60944	01
5	116	16.50	7	1	0	22	1	0	1	0	0	2.80336	3.09104	2.07944	01
6	118	6.75	5	1	0	29	1	0	1	0	0	1.90954	3.36730	1.79176	01
7	123	3.00	6	1	0	31	1	0	1	0	0	1.09861	3.43399	1.94591	01
8	126	13.00	40	1	0	42	1	0	1	0	0	2.56495	3.73767	3.71357	01
9	130	5.75	5	1	0	37	1	0	1	0	0	1.74920	3.61092	1.79176	01
10	135	2.50	14	1	0	28	1	0	1	0	0	0.91629	3.33220	2.70805	01
11	141	13.00	26	1	0	36	1	0	1	0	0	2.56495	3.58352	3.29584	01
12	145	8.25	12	1	0	24	1	0	1	0	0	2.11021	3.17805	2.56495	01

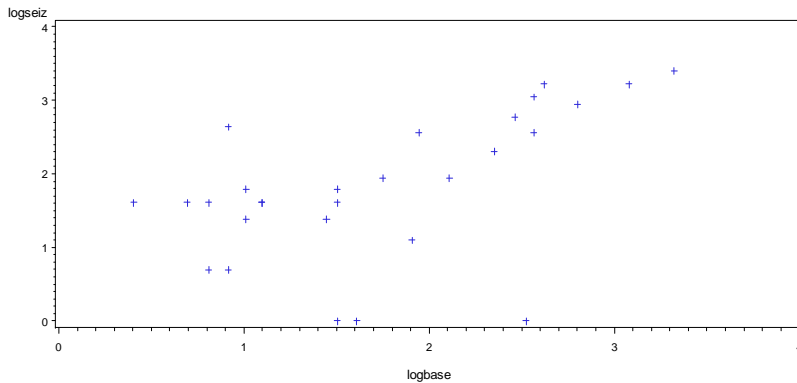
Plot of log(seizure count+1) versus log(baseline count/4)

Plotted separately for each treatment by time combination
 trt=0 time=1



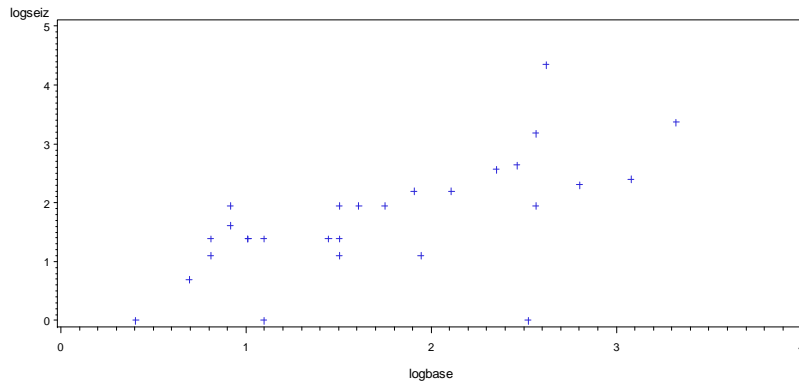
Plot of log(seizure count+1) versus log(baseline count/4)

Plotted separately for each treatment by time combination
 trt=0 time=2



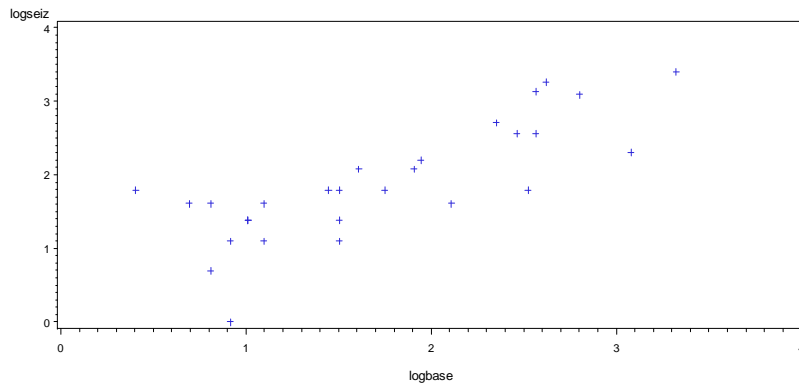
Plot of $\log(\text{seizure count}+1)$ versus $\log(\text{baseline count}/4)$

Plotted separately for each treatment by time combination
trt=0 time=3



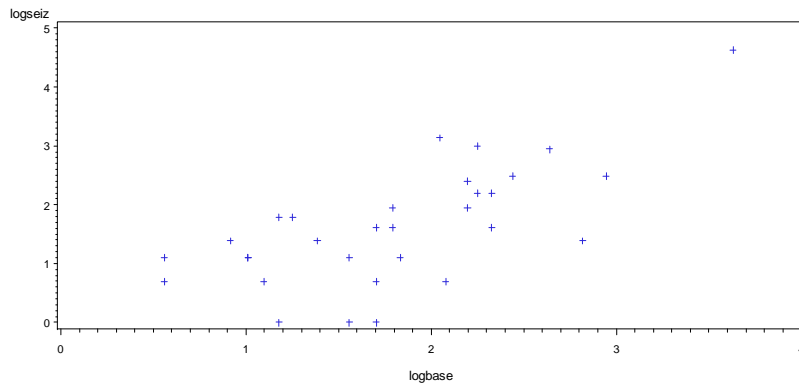
Plot of $\log(\text{seizure count}+1)$ versus $\log(\text{baseline count}/4)$

Plotted separately for each treatment by time combination
trt=0 time=4



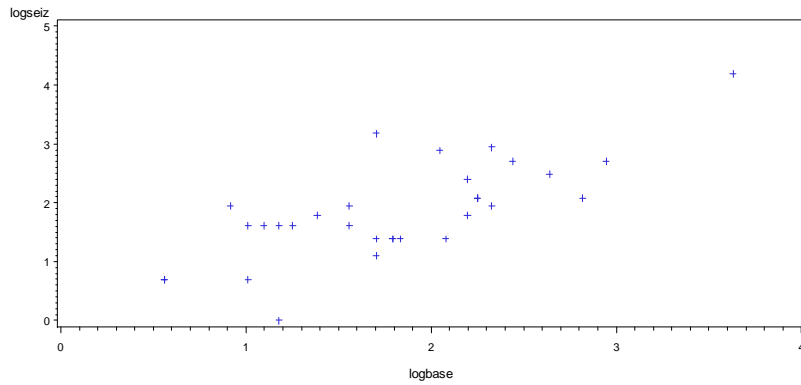
Plot of $\log(\text{seizure count}+1)$ versus $\log(\text{baseline count}/4)$

Plotted separately for each treatment by time combination
trt=1 time=1



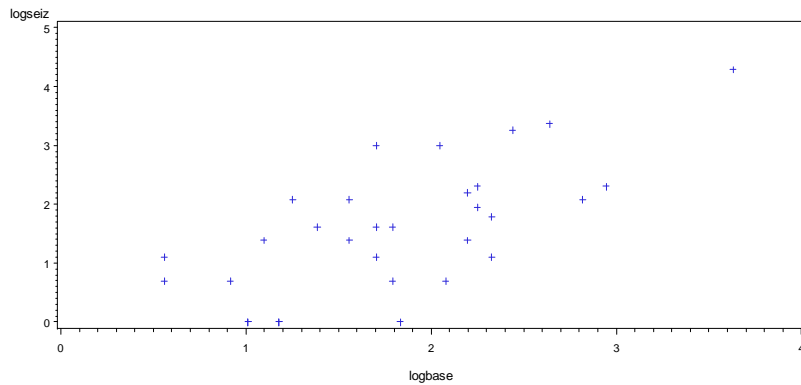
Plot of $\log(\text{seizure count}+1)$ versus $\log(\text{baseline count}/4)$

Plotted separately for each treatment by time combination
trt=1 time=2



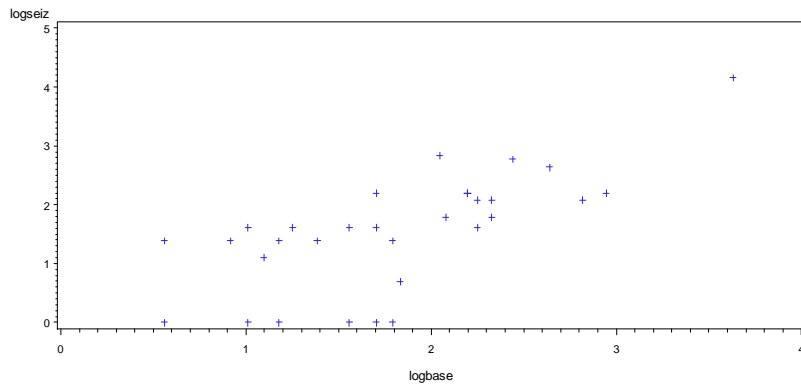
Plot of $\log(\text{seizure count}+1)$ versus $\log(\text{baseline count}/4)$

Plotted separately for each treatment by time combination
trt=1 time=3



Plot of $\log(\text{seizure count}+1)$ versus $\log(\text{baseline count}/4)$

Plotted separately for each treatment by time combination
trt=1 time=4



The GENMOD Procedure

Algorithm converged.

GEE Model Information

Correlation Structure	Independent
Within-Subject Effect	time (4 levels)
Subject Effect	id (59 levels)
Number of Clusters	59
Correlation Matrix Dimension	4
Maximum Cluster Size	4
Minimum Cluster Size	4

Algorithm converged.

Working Correlation Matrix

	Col1	Col2	Col3	Col4
Row1	1.0000	0.0000	0.0000	0.0000
Row2	0.0000	1.0000	0.0000	0.0000
Row3	0.0000	0.0000	1.0000	0.0000
Row4	0.0000	0.0000	0.0000	1.0000

GEE Fit Criteria

QIC	-1242.5523
QICu	-1242.3501

Analysis Of GEE Parameter Estimates
Empirical Standard Error Estimates

Parameter	Estimate	Standard Error	95% Confidence Limits		Z	Pr > |Z|
Intercept	-1.0479	0.4120	-1.8554	-0.2403	-2.54	0.0110
time 1	-0.3773	0.3340	-1.0319	0.2773	-1.13	0.2585
time 2	0.7648	0.2792	0.2175	1.3121	2.74	0.0062
time 3	0.1648	0.3528	-0.5267	0.8563	0.47	0.6404
time 4	0.0000	0.0000	0.0000	0.0000	.	.
trt 0	1.2341	0.4780	0.2972	2.1710	2.58	0.0098
trt 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt 1 0	0.5457	0.5502	-0.5327	1.6242	0.99	0.3213
time*trt 1 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt 2 0	-0.6483	0.5184	-1.6644	0.3678	-1.25	0.2111
time*trt 2 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt 3 0	-0.3562	0.4999	-1.3360	0.6235	-0.71	0.4761

The GENMOD Procedure

Analysis Of GEE Parameter Estimates
Empirical Standard Error Estimates

Parameter		Estimate	Standard Error	95% Confidence Limits		Z	Pr > |Z|
time*trt	3 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	4 0	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	4 1	0.0000	0.0000	0.0000	0.0000	.	.
logbase		1.3610	0.1651	1.0375	1.6845	8.24	<.0001
logbase*time	1	0.2377	0.1020	0.0378	0.4375	2.33	0.0198
logbase*time	2	-0.2159	0.0876	-0.3876	-0.0442	-2.46	0.0137
logbase*time	3	0.0106	0.1145	-0.2138	0.2350	0.09	0.9263
logbase*time	4	0.0000	0.0000	0.0000	0.0000	.	.
logbase*trt	0	-0.4265	0.2022	-0.8228	-0.0301	-2.11	0.0349
logbase*trt	1	0.0000	0.0000	0.0000	0.0000	.	.
logbase*time*trt	1 0	-0.2408	0.2060	-0.6445	0.1629	-1.17	0.2424
logbase*time*trt	1 1	0.0000	0.0000	0.0000	0.0000	.	.
logbase*time*trt	2 0	0.1823	0.1984	-0.2066	0.5712	0.92	0.3581
logbase*time*trt	2 1	0.0000	0.0000	0.0000	0.0000	.	.
logbase*time*trt	3 0	0.1133	0.2072	-0.2929	0.5194	0.55	0.5846
logbase*time*trt	3 1	0.0000	0.0000	0.0000	0.0000	.	.
logbase*time*trt	4 0	0.0000	0.0000	0.0000	0.0000	.	.
logbase*time*trt	4 1	0.0000	0.0000	0.0000	0.0000	.	.

Analysis Of GEE Parameter Estimates
Model-Based Standard Error Estimates

Parameter		Estimate	Standard Error	95% Confidence Limits		Z	Pr > |Z|
Intercept		-1.0479	0.5243	-2.0755	-0.0202	-2.00	0.0457
time	1	-0.3773	0.7192	-1.7869	1.0322	-0.52	0.5998
time	2	0.7648	0.6886	-0.5849	2.1145	1.11	0.2667
time	3	0.1648	0.7092	-1.2252	1.5548	0.23	0.8163
time	4	0.0000	0.0000	0.0000	0.0000	.	.
trt	0	1.2341	0.7044	-0.1466	2.6148	1.75	0.0798
trt	1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	1 0	0.5457	0.9625	-1.3407	2.4322	0.57	0.5707
time*trt	1 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	2 0	-0.6483	0.9500	-2.5103	1.2137	-0.68	0.4950
time*trt	2 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	3 0	-0.3562	0.9729	-2.2631	1.5506	-0.37	0.7142
time*trt	3 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	4 0	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	4 1	0.0000	0.0000	0.0000	0.0000	.	.
logbase		1.3610	0.1967	0.9754	1.7466	6.92	<.0001
logbase*time	1	0.2377	0.2641	-0.2800	0.7553	0.90	0.3682
logbase*time	2	-0.2159	0.2635	-0.7324	0.3007	-0.82	0.4127
logbase*time	3	0.0106	0.2658	-0.5104	0.5316	0.04	0.9682

The GENMOD Procedure

Analysis Of GEE Parameter Estimates
Model-Based Standard Error Estimates

Parameter		Estimate	Standard Error	95% Confidence Limits		Z	Pr > |Z|
logbase*time	4	0.0000	0.0000	0.0000	0.0000	.	.
logbase*trt	0	-0.4265	0.2765	-0.9684	0.1154	-1.54	0.1230
logbase*trt	1	0.0000	0.0000	0.0000	0.0000	.	.
logbase*time*trt	1 0	-0.2408	0.3736	-0.9730	0.4914	-0.64	0.5192
logbase*time*trt	1 1	0.0000	0.0000	0.0000	0.0000	.	.
logbase*time*trt	2 0	0.1823	0.3781	-0.5588	0.9235	0.48	0.6297
logbase*time*trt	2 1	0.0000	0.0000	0.0000	0.0000	.	.
logbase*time*trt	3 0	0.1133	0.3802	-0.6319	0.8585	0.30	0.7658
logbase*time*trt	3 1	0.0000	0.0000	0.0000	0.0000	.	.
logbase*time*trt	4 0	0.0000	0.0000	0.0000	0.0000	.	.
logbase*time*trt	4 1	0.0000	0.0000	0.0000	0.0000	.	.
Scale		2.1608	.	.	.	.	.

NOTE: The scale parameter was held fixed.

Score Statistics For Type 3 GEE Analysis

Source	DF	Chi-Square	Pr > ChiSq
time	3	4.48	0.2140
trt	1	4.46	0.0347
time*trt	3	4.71	0.1943
logbase	1	6.39	0.0115
logbase*time	3	5.25	0.1541
logbase*trt	1	2.41	0.1203
logbase*time*trt	3	3.79	0.2847

The GENMOD Procedure

Algorithm converged.

GEE Model Information

Correlation Structure	AR(1)
Within-Subject Effect	time (4 levels)
Subject Effect	id (59 levels)
Number of Clusters	59
Correlation Matrix Dimension	4
Maximum Cluster Size	4
Minimum Cluster Size	4

Algorithm converged.

Working Correlation Matrix

	Col1	Col2	Col3	Col4
Row1	1.0000	0.5146	0.2649	0.1363
Row2	0.5146	1.0000	0.5146	0.2649
Row3	0.2649	0.5146	1.0000	0.5146
Row4	0.1363	0.2649	0.5146	1.0000

GEE Fit Criteria

QIC	-1242.6970
QICu	-1242.2846

Analysis Of GEE Parameter Estimates
Empirical Standard Error Estimates

Parameter	Estimate	Standard Error	95% Confidence Limits		Z	Pr > |Z|
Intercept	-1.0504	0.4118	-1.8575	-0.2432	-2.55	0.0108
time 1	-0.3461	0.3307	-0.9944	0.3021	-1.05	0.2953
time 2	0.7058	0.2823	0.1524	1.2591	2.50	0.0124
time 3	0.1645	0.3533	-0.5279	0.8568	0.47	0.6415
time 4	0.0000	0.0000	0.0000	0.0000	.	.
trt 0	1.2684	0.4800	0.3275	2.2093	2.64	0.0082
trt 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt 1 0	0.5030	0.5467	-0.5686	1.5745	0.92	0.3576
time*trt 1 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt 2 0	-0.5871	0.5145	-1.5955	0.4213	-1.14	0.2538
time*trt 2 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt 3 0	-0.3472	0.4965	-1.3203	0.6259	-0.70	0.4843

The GENMOD Procedure

Analysis Of GEE Parameter Estimates
Empirical Standard Error Estimates

Parameter		Estimate	Standard Error	95% Confidence Limits		Z	Pr > |Z|
time*trt	3 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	4 0	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	4 1	0.0000	0.0000	0.0000	0.0000	.	.
logbase		1.3619	0.1642	1.0401	1.6837	8.30	<.0001
logbase*time	1	0.2259	0.1010	0.0279	0.4238	2.24	0.0254
logbase*time	2	-0.1921	0.0895	-0.3675	-0.0167	-2.15	0.0318
logbase*time	3	0.0107	0.1144	-0.2135	0.2348	0.09	0.9257
logbase*time	4	0.0000	0.0000	0.0000	0.0000	.	.
logbase*trt	0	-0.4411	0.2021	-0.8373	-0.0449	-2.18	0.0291
logbase*trt	1	0.0000	0.0000	0.0000	0.0000	.	.
logbase*time*trt	1 0	-0.2240	0.2053	-0.6264	0.1784	-1.09	0.2753
logbase*time*trt	1 1	0.0000	0.0000	0.0000	0.0000	.	.
logbase*time*trt	2 0	0.1576	0.1975	-0.2295	0.5447	0.80	0.4249
logbase*time*trt	2 1	0.0000	0.0000	0.0000	0.0000	.	.
logbase*time*trt	3 0	0.1097	0.2085	-0.2989	0.5183	0.53	0.5987
logbase*time*trt	3 1	0.0000	0.0000	0.0000	0.0000	.	.
logbase*time*trt	4 0	0.0000	0.0000	0.0000	0.0000	.	.
logbase*time*trt	4 1	0.0000	0.0000	0.0000	0.0000	.	.

Score Statistics For Type 3 GEE Analysis

Source	DF	Chi-Square	Pr > ChiSq
time	3	4.24	0.2370
trt	1	4.82	0.0281
time*trt	3	4.31	0.2300
logbase	1	6.83	0.0090
logbase*time	3	5.16	0.1607
logbase*trt	1	2.67	0.1026
logbase*time*trt	3	3.49	0.3220

The GENMOD Procedure

Algorithm converged.

GEE Model Information

Correlation Structure	Exchangeable
Within-Subject Effect	time (4 levels)
Subject Effect	id (59 levels)
Number of Clusters	59
Correlation Matrix Dimension	4
Maximum Cluster Size	4
Minimum Cluster Size	4

Algorithm converged.

Working Correlation Matrix

	Col1	Col2	Col3	Col4
Row1	1.0000	0.3999	0.3999	0.3999
Row2	0.3999	1.0000	0.3999	0.3999
Row3	0.3999	0.3999	1.0000	0.3999
Row4	0.3999	0.3999	0.3999	1.0000

Exchangeable Working Correlation

Correlation 0.3998975856

GEE Fit Criteria

QIC	-1242.6958
QICu	-1242.3024

Analysis Of GEE Parameter Estimates
Empirical Standard Error Estimates

Parameter		Estimate	Standard Error	95% Confidence Limits		Z	Pr > |Z|
Intercept		-1.0629	0.4102	-1.8670	-0.2588	-2.59	0.0096
time	1	-0.3320	0.3279	-0.9746	0.3107	-1.01	0.3113
time	2	0.7296	0.2828	0.1753	1.2839	2.58	0.0099
time	3	0.1680	0.3538	-0.5254	0.8614	0.47	0.6349
time	4	0.0000	0.0000	0.0000	0.0000	.	.
trt	0	1.2694	0.4772	0.3342	2.2047	2.66	0.0078

The GENMOD Procedure

Analysis Of GEE Parameter Estimates
Empirical Standard Error Estimates

Parameter		Estimate	Standard Error	95% Confidence Limits		Z	Pr > |Z|
trt	1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	1 0	0.4987	0.5441	-0.5677	1.5651	0.92	0.3594
time*trt	1 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	2 0	-0.6146	0.5172	-1.6283	0.3991	-1.19	0.2347
time*trt	2 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	3 0	-0.3567	0.4994	-1.3354	0.6221	-0.71	0.4751
time*trt	3 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	4 0	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	4 1	0.0000	0.0000	0.0000	0.0000	.	.
logbase		1.3667	0.1626	1.0480	1.6854	8.40	<.0001
logbase*time	1	0.2204	0.1004	0.0236	0.4173	2.19	0.0282
logbase*time	2	-0.2014	0.0886	-0.3750	-0.0278	-2.27	0.0230
logbase*time	3	0.0094	0.1146	-0.2153	0.2340	0.08	0.9349
logbase*time	4	0.0000	0.0000	0.0000	0.0000	.	.
logbase*trt	0	-0.4409	0.2003	-0.8335	-0.0484	-2.20	0.0277
logbase*trt	1	0.0000	0.0000	0.0000	0.0000	.	.
logbase*time*trt	1 0	-0.2229	0.2047	-0.6240	0.1783	-1.09	0.2762
logbase*time*trt	1 1	0.0000	0.0000	0.0000	0.0000	.	.
logbase*time*trt	2 0	0.1685	0.1978	-0.2193	0.5563	0.85	0.3944
logbase*time*trt	2 1	0.0000	0.0000	0.0000	0.0000	.	.
logbase*time*trt	3 0	0.1135	0.2089	-0.2960	0.5230	0.54	0.5871
logbase*time*trt	3 1	0.0000	0.0000	0.0000	0.0000	.	.
logbase*time*trt	4 0	0.0000	0.0000	0.0000	0.0000	.	.
logbase*time*trt	4 1	0.0000	0.0000	0.0000	0.0000	.	.

Score Statistics For Type 3 GEE Analysis

Source	DF	Chi-Square	Pr > ChiSq
time	3	4.29	0.2323
trt	1	4.71	0.0300
time*trt	3	4.54	0.2087
logbase	1	6.58	0.0103
logbase*time	3	5.10	0.1646
logbase*trt	1	2.59	0.1078
logbase*time*trt	3	3.61	0.3063

Model 4: Now reduce model 2 by dropping nonsignificant terms in covariate part of the mean specification. First drop logbase*trt*time.

9

The GENMOD Procedure

Algorithm converged.

GEE Model Information

Correlation Structure	AR(1)
Within-Subject Effect	time (4 levels)
Subject Effect	id (59 levels)
Number of Clusters	59
Correlation Matrix Dimension	4
Maximum Cluster Size	4
Minimum Cluster Size	4

Algorithm converged.

GEE Fit Criteria

QIC	-1239.8379
QICu	-1244.5601

Analysis Of GEE Parameter Estimates
Empirical Standard Error Estimates

Parameter		Estimate	Standard Error	95% Confidence Limits		Z	Pr > |Z|
Intercept		-1.0868	0.4178	-1.9057	-0.2679	-2.60	0.0093
time	1	-0.0498	0.3128	-0.6629	0.5634	-0.16	0.8736
time	2	0.5467	0.2848	-0.0114	1.1049	1.92	0.0549
time	3	0.0438	0.3198	-0.5829	0.6705	0.14	0.8911
time	4	0.0000	0.0000	0.0000	0.0000	.	.
trt	0	1.3443	0.4366	0.4885	2.2001	3.08	0.0021
trt	1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	1 0	-0.0612	0.1824	-0.4187	0.2963	-0.34	0.7372
time*trt	1 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	2 0	-0.2291	0.1549	-0.5327	0.0746	-1.48	0.1392
time*trt	2 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	3 0	-0.0843	0.2683	-0.6101	0.4416	-0.31	0.7535
time*trt	3 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	4 0	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	4 1	0.0000	0.0000	0.0000	0.0000	.	.
logbase		1.3772	0.1654	1.0529	1.7015	8.32	<.0001
logbase*time	1	0.1153	0.1118	-0.1039	0.3345	1.03	0.3024
logbase*time	2	-0.1252	0.0978	-0.3169	0.0664	-1.28	0.2003
logbase*time	3	0.0586	0.1090	-0.1552	0.2723	0.54	0.5913
logbase*time	4	0.0000	0.0000	0.0000	0.0000	.	.
logbase*trt	0	-0.4748	0.1851	-0.8376	-0.1120	-2.57	0.0103

Model 4: Now reduce model 2 by dropping nonsignificant terms in covariate part of the mean specification. First drop logbase*trt*time.

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The GENMOD Procedure

Analysis Of GEE Parameter Estimates
Empirical Standard Error Estimates

Parameter	Estimate	Standard Error	95% Confidence Limits		Z	Pr > |Z|
logbase*trt 1	0.0000	0.0000	0.0000	0.0000	.	.

Score Statistics For Type 3 GEE Analysis

Source	DF	Chi-Square	Pr > ChiSq
time	3	4.01	0.2604
trt	1	4.94	0.0262
time*trt	3	2.18	0.5362
logbase	1	6.89	0.0087
logbase*time	3	3.86	0.2770
logbase*trt	1	2.78	0.0957

Model 5: Now reduce model 4 by dropping nonsignificant terms in covariate part of the mean specification. Next drop logbase*time.

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The GENMOD Procedure

Algorithm converged.

GEE Model Information

Correlation Structure	AR(1)
Within-Subject Effect	time (4 levels)
Subject Effect	id (59 levels)
Number of Clusters	59
Correlation Matrix Dimension	4
Maximum Cluster Size	4
Minimum Cluster Size	4

Algorithm converged.

GEE Fit Criteria

QIC	-1229.7007
QICu	-1238.5989

Analysis Of GEE Parameter Estimates
Empirical Standard Error Estimates

Parameter		Estimate	Standard Error	95% Confidence Limits		Z	Pr > |Z|
Intercept		-1.1733	0.4001	-1.9575	-0.3890	-2.93	0.0034
time	1	0.2460	0.1124	0.0257	0.4662	2.19	0.0286
time	2	0.2270	0.1008	0.0294	0.4245	2.25	0.0243
time	3	0.1919	0.0926	0.0104	0.3734	2.07	0.0383
time	4	0.0000	0.0000	0.0000	0.0000	.	.
trt	0	1.3178	0.4464	0.4430	2.1927	2.95	0.0032
trt	1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	1 0	-0.0848	0.1908	-0.4588	0.2893	-0.44	0.6569
time*trt	1 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	2 0	-0.1874	0.1564	-0.4939	0.1191	-1.20	0.2307
time*trt	2 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	3 0	-0.0937	0.2486	-0.5809	0.3934	-0.38	0.7061
time*trt	3 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	4 0	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	4 1	0.0000	0.0000	0.0000	0.0000	.	.
logbase		1.4098	0.1587	1.0987	1.7209	8.88	<.0001
logbase*trt	0	-0.4572	0.1878	-0.8253	-0.0891	-2.43	0.0149
logbase*trt	1	0.0000	0.0000	0.0000	0.0000	.	.

Model 5: Now reduce model 4 by dropping nonsignificant terms in covariate part of the mean specification. Next drop logbase*time.

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The GENMOD Procedure

Score Statistics For Type 3 GEE Analysis

Source	DF	Chi-Square	Pr > ChiSq
time	3	5.03	0.1693
trt	1	4.66	0.0309
time*trt	3	1.54	0.6729
logbase	1	5.88	0.0153
logbase*trt	1	2.58	0.1083

Model 6: Now reduce model 4 by dropping nonsignificant terms in covariate part of the mean specification. Next drop logbase*trt.
This is the final model.

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The GENMOD Procedure

Algorithm converged.

GEE Model Information

Correlation Structure	AR(1)
Within-Subject Effect	time (4 levels)
Subject Effect	id (59 levels)
Number of Clusters	59
Correlation Matrix Dimension	4
Maximum Cluster Size	4
Minimum Cluster Size	4

Algorithm converged.

Working Correlation Matrix

	Col1	Col2	Col3	Col4
Row1	1.0000	0.5067	0.2568	0.1301
Row2	0.5067	1.0000	0.5067	0.2568
Row3	0.2568	0.5067	1.0000	0.5067
Row4	0.1301	0.2568	0.5067	1.0000

GEE Fit Criteria

QIC	-1175.7029
QICu	-1191.8280

Analysis Of GEE Parameter Estimates
Empirical Standard Error Estimates

Parameter	Estimate	Standard Error	95% Confidence Limits		Z	Pr > |Z|
Intercept	-0.6328	0.3159	-1.2520	-0.0136	-2.00	0.0452
time 1	0.2460	0.1124	0.0257	0.4662	2.19	0.0286
time 2	0.2270	0.1008	0.0294	0.4245	2.25	0.0243
time 3	0.1919	0.0926	0.0104	0.3734	2.07	0.0383
time 4	0.0000	0.0000	0.0000	0.0000	.	.
trt 0	0.1999	0.1839	-0.1606	0.5604	1.09	0.2771
trt 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt 1 0	-0.0848	0.1908	-0.4588	0.2893	-0.44	0.6569
time*trt 1 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt 2 0	-0.1874	0.1564	-0.4939	0.1191	-1.20	0.2307

Model 6: Now reduce model 4 by dropping nonsignificant terms in covariate part of the mean specification. Next drop logbase*trt.
This is the final model.

The GENMOD Procedure

Analysis Of GEE Parameter Estimates
Empirical Standard Error Estimates

Parameter		Estimate	Standard Error	95% Confidence Limits		Z	Pr > |Z|
time*trt	2 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	3 0	-0.0937	0.2486	-0.5809	0.3934	-0.38	0.7061
time*trt	3 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	4 0	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	4 1	0.0000	0.0000	0.0000	0.0000	.	.
logbase		1.1954	0.1556	0.8903	1.5004	7.68	<.0001

Analysis Of GEE Parameter Estimates
Model-Based Standard Error Estimates

Parameter		Estimate	Standard Error	95% Confidence Limits		Z	Pr > |Z|
Intercept		-0.6328	0.2833	-1.1881	-0.0775	-2.23	0.0255
time	1	0.2460	0.1905	-0.1274	0.6194	1.29	0.1967
time	2	0.2270	0.1769	-0.1198	0.5738	1.28	0.1995
time	3	0.1919	0.1455	-0.0932	0.4770	1.32	0.1871
time	4	0.0000	0.0000	0.0000	0.0000	.	.
trt	0	0.1999	0.2126	-0.2168	0.6166	0.94	0.3472
trt	1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	1 0	-0.0848	0.2673	-0.6087	0.4391	-0.32	0.7511
time*trt	1 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	2 0	-0.1874	0.2512	-0.6798	0.3050	-0.75	0.4556
time*trt	2 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	3 0	-0.0937	0.2042	-0.4940	0.3065	-0.46	0.6462
time*trt	3 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	4 0	0.0000	0.0000	0.0000	0.0000	.	.
time*trt	4 1	0.0000	0.0000	0.0000	0.0000	.	.
logbase		1.1954	0.0970	1.0052	1.3855	12.32	<.0001
Scale		2.2057	.	.	.	.	.

NOTE: The scale parameter was held fixed.

Score Statistics For Type 3 GEE Analysis

Source	DF	Chi-Square	Pr > ChiSq
time	3	5.03	0.1694
trt	1	0.34	0.5587
time*trt	3	1.54	0.6729
logbase	1	5.60	0.0180

Model 6: Now reduce model 4 by dropping nonsignificant terms in covariate part of the mean specification. Next drop logbase*trt. This is the final model.

The GENMOD Procedure

Least Squares Means

Effect	trt	Estimate		Standard Error	DF	Chi-Square	Pr > ChiSq	Alpha	Confidence Limits	
		Mean	L'Beta							
trt	0	5.7844	1.7552	0.1503	1	136.40	<.0001	0.05	1.4606	2.0497
trt	1	5.1902	1.6468	0.1176	1	195.93	<.0001	0.05	1.4162	1.8774

Differences of Least Squares Means

Effect	trt	_trt	Estimate	Standard Error	DF	Chi-Square	Pr > ChiSq	Alpha	Confidence Limits	
trt	0	1	0.1084	0.1912	1	0.32	0.5707	0.05	-0.2663	0.4831

Coefficients for Contrast trt effect

Label	Prm1	Prm2	Prm3	Prm4	Prm5	Prm6	Prm7	Prm8	Prm9	Prm10
	Prm11	Prm12	Prm13	Prm14	Prm15	Prm16				
trt effect	0	0	0	0	0	-1	1	-0.25	0.25	-0.25
	0.25	-0.25	0.25	-0.25	0.25	0				

Contrast Estimate Results

Label	Mean Estimate	Mean	Mean	L'Beta Estimate	Standard Error	Alpha	L'Beta	L'Beta
		Confidence	Confidence				Confidence	Confidence
		Limits	Limits				Limits	Limits
trt effect	0.8973	0.6169	1.3051	-0.1084	0.1912	0.05	-0.4831	0.2663
Exp(trt effect)				0.8973	0.1715	0.05	0.6169	1.3051

Contrast Estimate Results

Label	Chi-Square	Pr > ChiSq
trt effect	0.32	0.5707
Exp(trt effect)		

The GENMOD Procedure

Algorithm converged.

GEE Model Information

Correlation Structure	AR(1)
Within-Subject Effect	time (4 levels)
Subject Effect	id (59 levels)
Number of Clusters	59
Correlation Matrix Dimension	4
Maximum Cluster Size	4
Minimum Cluster Size	4

Algorithm converged.

Working Correlation Matrix

	Col1	Col2	Col3	Col4
Row1	1.0000	0.5067	0.2568	0.1301
Row2	0.5067	1.0000	0.5067	0.2568
Row3	0.2568	0.5067	1.0000	0.5067
Row4	0.1301	0.2568	0.5067	1.0000

GEE Fit Criteria

QIC	-1175.7029
QICu	-1191.8280

Analysis Of GEE Parameter Estimates
Empirical Standard Error Estimates

Parameter	Estimate	Standard Error	95% Confidence Limits		Z	Pr > |Z|
Intercept	-0.6328	0.3159	-1.2520	-0.0136	-2.00	0.0452
time 1	0.2460	0.1124	0.0257	0.4662	2.19	0.0286
time 2	0.2270	0.1008	0.0294	0.4245	2.25	0.0243
time 3	0.1919	0.0926	0.0104	0.3734	2.07	0.0383
time 4	0.0000	0.0000	0.0000	0.0000	.	.
trttime 01	0.1151	0.2595	-0.3936	0.6238	0.44	0.6574
trttime 02	0.0125	0.1634	-0.3077	0.3327	0.08	0.9392
trttime 03	0.1062	0.3213	-0.5236	0.7359	0.33	0.7411
trttime 04	0.1999	0.1839	-0.1606	0.5604	1.09	0.2771
trttime 11	0.0000	0.0000	0.0000	0.0000	.	.
trttime 12	0.0000	0.0000	0.0000	0.0000	.	.
trttime 13	0.0000	0.0000	0.0000	0.0000	.	.

The GENMOD Procedure

Analysis Of GEE Parameter Estimates
Empirical Standard Error Estimates

Parameter		Estimate	Standard Error	95% Confidence Limits		Z	Pr > |Z|
trttime	14	0.0000	0.0000	0.0000	0.0000	.	.
logbase		1.1954	0.1556	0.8903	1.5004	7.68	<.0001

Score Statistics For Type 3 GEE Analysis

Source	DF	Chi-Square	Pr > ChiSq
time	0	.	.
trttime	4	1.94	0.7467
logbase	1	5.60	0.0180

The GENMOD Procedure

Algorithm converged.

GEE Model Information

Correlation Structure	Unstructured
Within-Subject Effect	time (4 levels)
Subject Effect	id (59 levels)
Number of Clusters	59
Correlation Matrix Dimension	4
Maximum Cluster Size	4
Minimum Cluster Size	4

Algorithm converged.

GEE Fit Criteria

QIC	-1175.6708
QICu	-1191.8641

Analysis Of GEE Parameter Estimates
Empirical Standard Error Estimates

Parameter	Estimate	Standard Error	95% Confidence Limits		Z	Pr > |Z|
Intercept	-0.5950	0.3092	-1.2011	0.0111	-1.92	0.0543
time 1	0.2460	0.1124	0.0257	0.4662	2.19	0.0286
time 2	0.2270	0.1008	0.0294	0.4245	2.25	0.0243
time 3	0.1919	0.0926	0.0104	0.3734	2.07	0.0383
time 4	0.0000	0.0000	0.0000	0.0000	.	.
trt 0	0.1996	0.1851	-0.1632	0.5624	1.08	0.2808
trt 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt 1 0	-0.0848	0.1908	-0.4588	0.2893	-0.44	0.6569
time*trt 1 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt 2 0	-0.1874	0.1564	-0.4939	0.1191	-1.20	0.2307
time*trt 2 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt 3 0	-0.0937	0.2486	-0.5809	0.3934	-0.38	0.7061
time*trt 3 1	0.0000	0.0000	0.0000	0.0000	.	.
time*trt 4 0	0.0000	0.0000	0.0000	0.0000	.	.
time*trt 4 1	0.0000	0.0000	0.0000	0.0000	.	.
logbase	1.1800	0.1544	0.8773	1.4826	7.64	<.0001

The GENMOD Procedure

Score Statistics For Type 3 GEE Analysis

Source	DF	Chi-Square	Pr > ChiSq
time	3	5.04	0.1692
trt	1	0.34	0.5616
time*trt	3	1.54	0.6735
logbase	1	0.35	0.5561