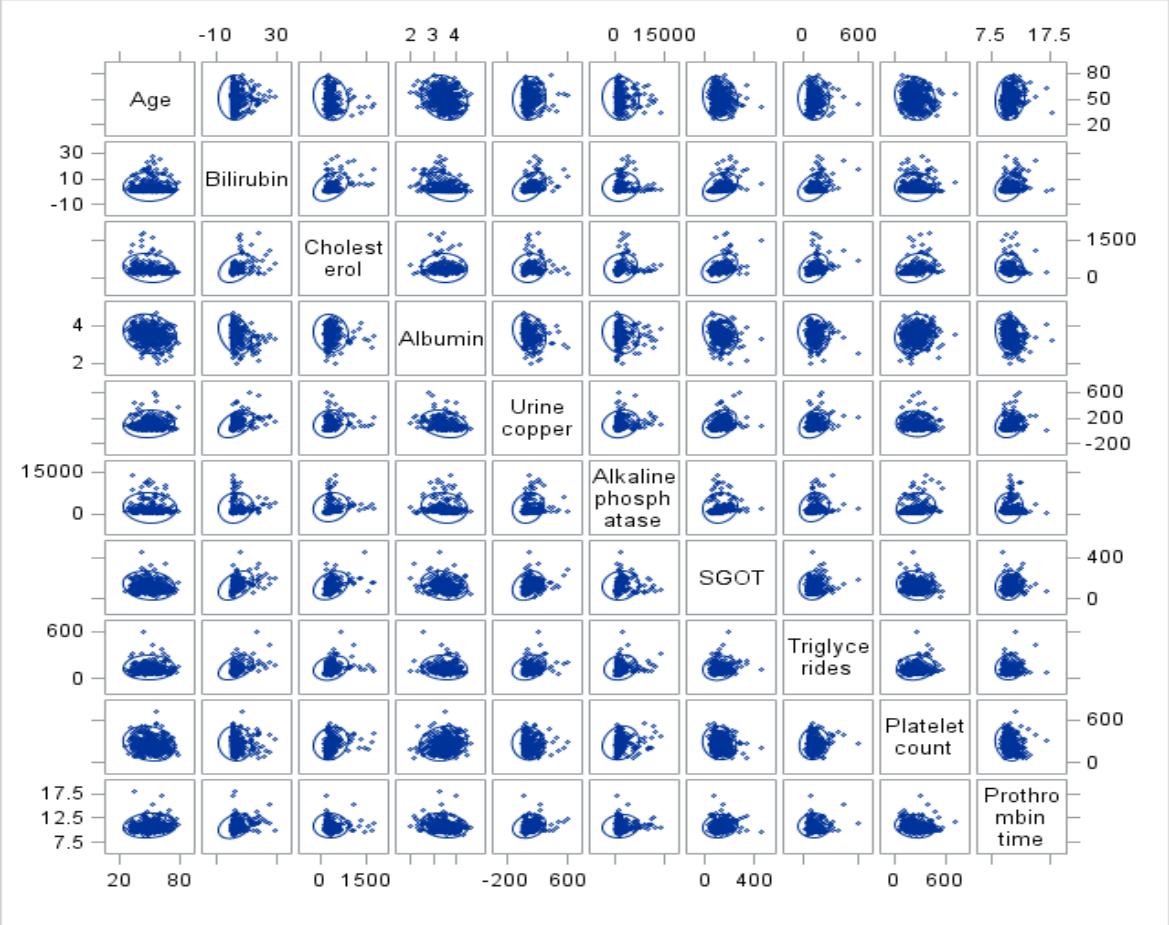
Related Output

Multicollinearity

Pearson Correlation Coefficients Prob > |r| under H0: Rho=0 Number of Observations	Age	Bilirubin	Cholesterol	Albumin	Urine copper	Alkaline phosphatase	SGOT	Triglycerides	Platelet count	Prothrombin time
Age	1.00000	0.00236	-0.15762	-0.18235	0.06155	-0.04725	-0.14987	0.02207	-0.14820	0.11376
		0.9616	0.0078	0.0002	0.2800	0.4056	0.0080	0.7122	0.0027	0.0203
	418	418	284	418	310	312	312	282	407	416
Bilirubin	0.00236	1.00000	0.39713	-0.31418	0.45692	0.11698	0.44173	0.43675	-0.01344	0.31489
	0.9616		<.0001	<.0001	<.0001	0.0389	<.0001	<.0001	0.7870	<.0001
	418	418	284	418	310	312	312	282	407	416
Cholesterol	-0.15762	0.39713	1.00000	-0.06973	0.12612	0.14947	0.35325	0.27683	0.19171	-0.03081
	0.0078	<.0001		0.2414	0.0343	0.0117	<.0001	<.0001	0.0013	0.6051
	284	284	284	284	282	284	284	282	280	284
Albumin	-0.18235	-0.31418	-0.06973	1.00000	-0.26477	-0.10146	-0.22005	-0.10342	0.15866	-0.20059
	0.0002	<.0001	0.2414		<.0001	0.0735	<.0001	0.0830	0.0013	<.0001
	418	418	284	418	310	312	312	282	407	416
Urine copper	0.06155	0.45692	0.12612	-0.26477	1.00000	0.18736	0.29383	0.27985	-0.06440	0.21822
	0.2800	<.0001	0.0343	<.0001		0.0009	<.0001	<.0001	0.2614	0.0001
	310	310	282	310	310	310	310	280	306	310
Alkaline phosphatase	-0.04725	0.11698	0.14947	-0.10146	0.18736	1.00000	0.11222	0.18008	0.14373	0.08938
	0.4056	0.0389	0.0117	0.0735	0.0009		0.0477	0.0024	0.0116	0.1151
	312	312	284	312	310	312	312	282	308	312
SGOT	-0.14987	0.44173	0.35325	-0.22005	0.29383	0.11222	1.00000	0.12612	-0.12015	0.11217
	0.0080	<.0001	<.0001	<.0001	<.0001	0.0477		0.0343	0.0351	0.0477
	312	312	284	312	310	312	312	282	308	312
Triglycerides	0.02207	0.43675	0.27683	-0.10342	0.27985	0.18008	0.12612	1.00000	0.10321	0.02012
	0.7122	<.0001	<.0001	0.0830	<.0001	0.0024	0.0343		0.0858	0.7365
	282	282	282	282	280	282	282	282	278	282
Platelet count	-0.14820	-0.01344	0.19171	0.15866	-0.06440	0.14373	-0.12015	0.10321	1.00000	-0.16733
	0.0027	0.7870	0.0013	0.0013	0.2614	0.0116	0.0351	0.0858		0.0007
	407	407	280	407	306	308	308	278	407	405
Prothrombin time	0.11376	0.31489	-0.03081	-0.20059	0.21822	0.08938	0.11217	0.02012	-0.16733	1.00000
	0.0203	<.0001	0.6051	<.0001	0.0001	0.1151	0.0477	0.7365	0.0007	
	416	416	284	416	310	312	312	282	405	416

Scatterplot Matrix



Linear Regression

Model 1

Linear Regression Results

The REG Procedure
Model: Linear_Regression_Model
Dependent Variable: Survival Time

Number of Observations Read	418
Number of Observations Used	310
Number of Observations with Missing Values	108

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	6	150342941	25057157	31.55	<.0001
Error	303	240643297	794202		
Corrected Total	309	390986238			

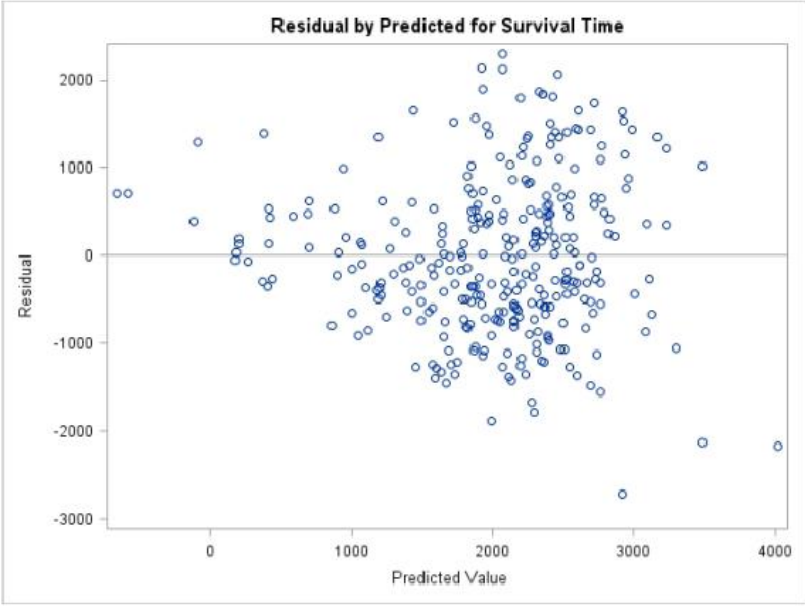
Root MSE	891.18029	R-Square	0.3845
Dependent Mean	2010.60323	Adj R-Sq	0.3723
Coeff Var	44.32403		

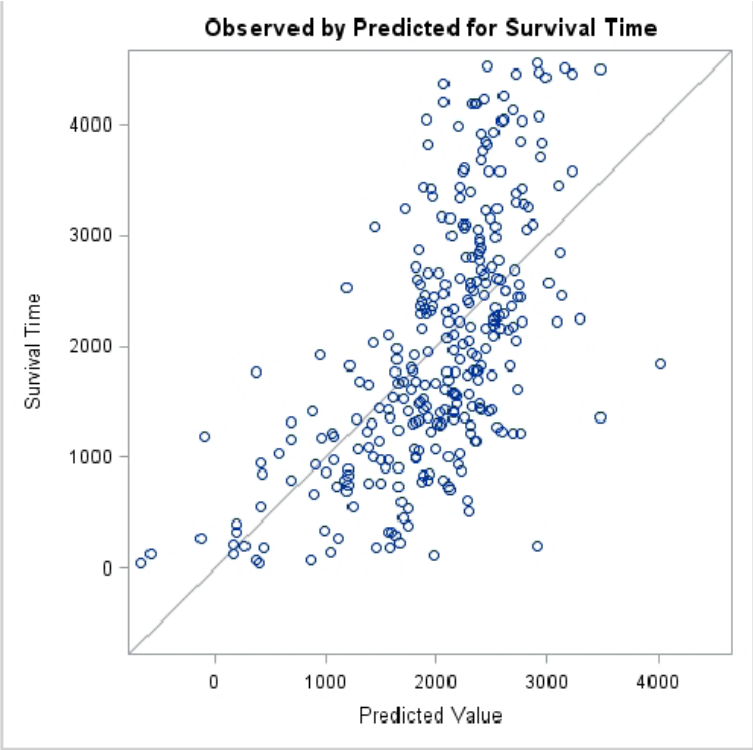
Parameter Estimates

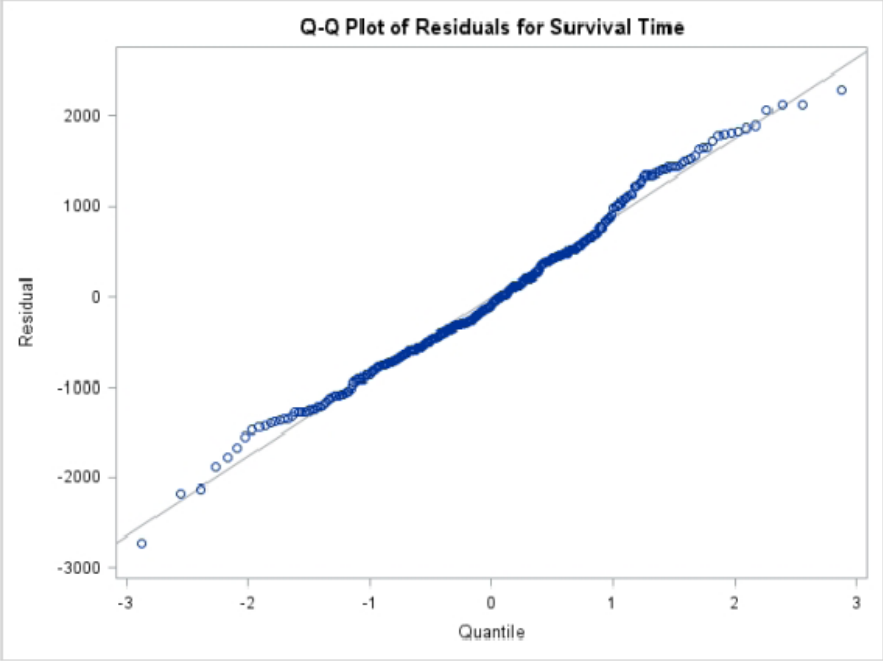
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	-180.34407	525.29664	-0.34	0.7316
Treatment	1	-35.12471	101.80159	-0.35	0.7303
Bilirubin	1	-66.88416	13.06090	-5.12	<.0001
Albumin	1	714.95866	137.08504	5.22	<.0001
Urine copper	1	-2.39953	0.68611	-3.50	0.0005
Alkaline phosphatase	1	0.12762	0.02414	5.29	<.0001
Histologicstage4	1	-314.99749	117.40194	-2.68	0.0077

Linear Regression Results

The REG Procedure
Model: Linear_Regression_Model
Dependent Variable: Survival Time







Test for Normality Model 1

Tests for Normality				
Test	**Statistic**		**p Value**	
Shapiro-Wilk	**W**	0.99018	**Pr < W**	0.0356
Kolmogorov-Smirnov	**D**	0.052392	**Pr > D**	0.0377
Cramer-von Mises	**W-Sq**	0.155643	**Pr > W-Sq**	0.0211
Anderson-Darling	**A-Sq**	1.029396	**Pr > A-Sq**	0.0103

Model 2

Linear Regression Results

The REG Procedure
Model: Linear_Regression_Model
Dependent Variable: log(SurvivalTime)

Number of Observations Read	418
Number of Observations Used	310
Number of Observations with Missing Values	108

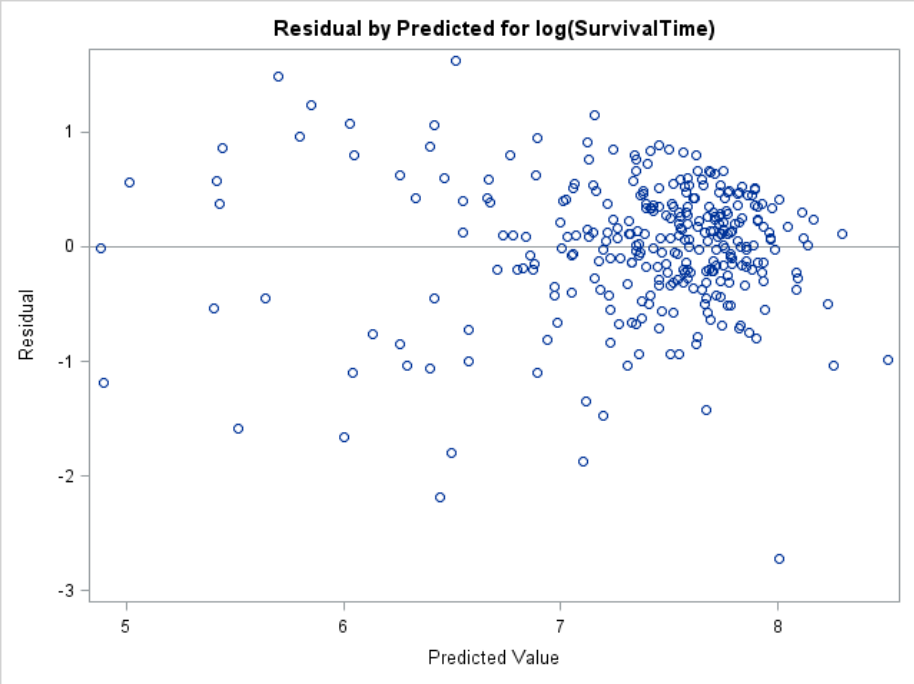
Analysis of Variance

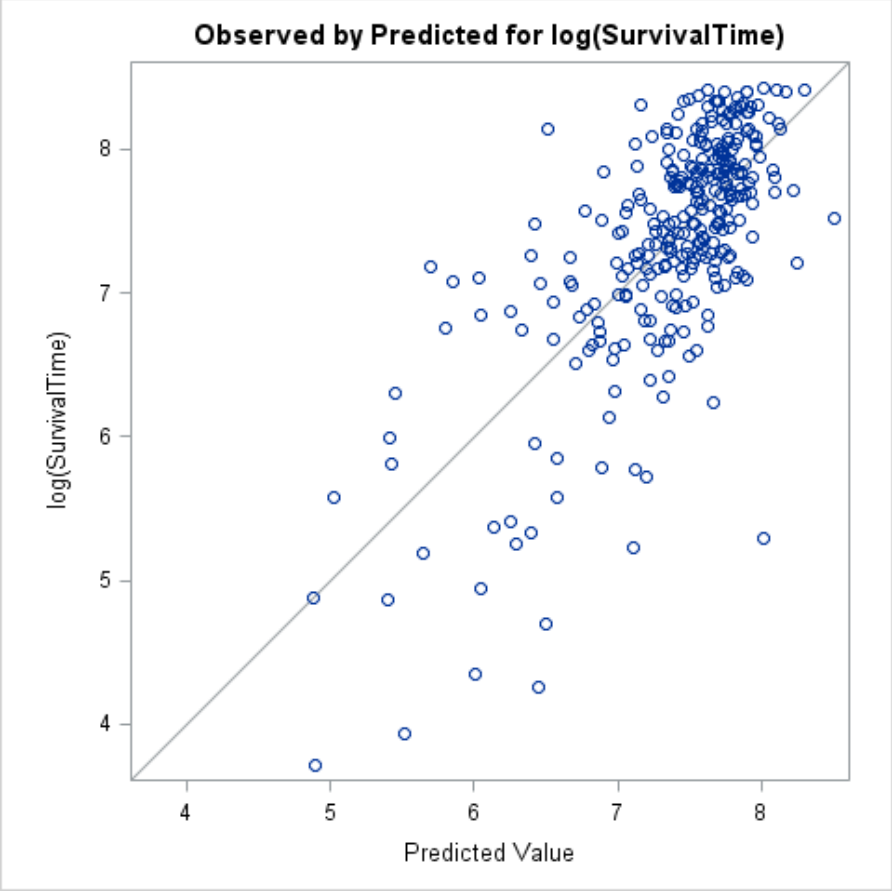
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	8	107.70792	13.46349	39.70	<.0001
Error	301	102.06553	0.33909		
Corrected Total	309	209.77345			

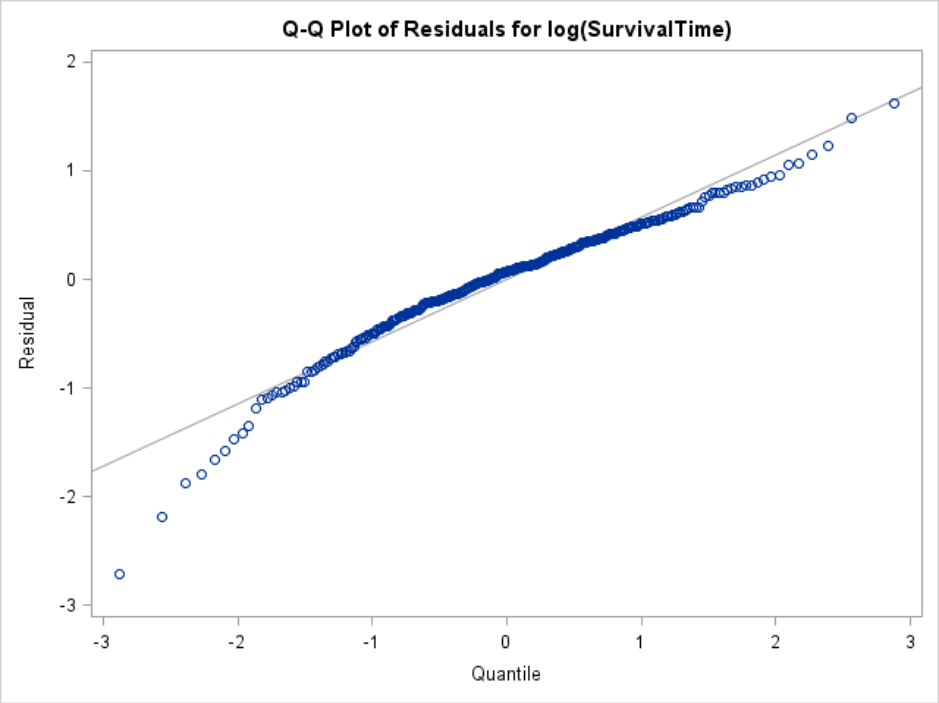
Root MSE	0.58231	R-Square	0.5134
Dependent Mean	7.37053	Adj R-Sq	0.5005
Coeff Var	7.90056		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	6.36654	0.35546	17.91	<.0001
Treatment	1	0.01501	0.06666	0.23	0.8220
Edema1	1	-0.90628	0.15509	-5.84	<.0001
Edema.5	1	-0.26447	0.12000	-2.20	0.0283
Bilirubin	1	-0.04634	0.00889	-5.21	<.0001
Albumin	1	0.38197	0.09322	4.10	<.0001
Urine copper	1	-0.00163	0.00044978	-3.63	0.0003
Alkaline phosphatase	1	0.00006363	0.00001580	4.03	<.0001
Histologicstage4	1	-0.23552	0.07713	-3.05	0.0025


Residual by Predicted for log(SurvivalTime)
Residual
1
0
-1
-2
-3
5
6
7
8
Predicted Value


Observed by Predicted for log(SurvivalTime)
log(SurvivalTime)
8
7
6
5
4
4
5
6
7
8
Predicted Value



Test for Normality Model 2

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.957879	Pr < W	<0.0001
Kolmogorov-Smirnov	D	0.079607	Pr > D	<0.0100
Cramer-von Mises	W-Sq	0.460615	Pr > W-Sq	<0.0050
Anderson-Darling	A-Sq	2.773682	Pr > A-Sq	<0.0050

Model 3

Linear Regression Results

The REG Procedure
Model: Linear_Regression_Model
Dependent Variable: log(SurvivalTime)

Number of Observations Read	418
Number of Observations Used	310
Number of Observations with Missing Values	108

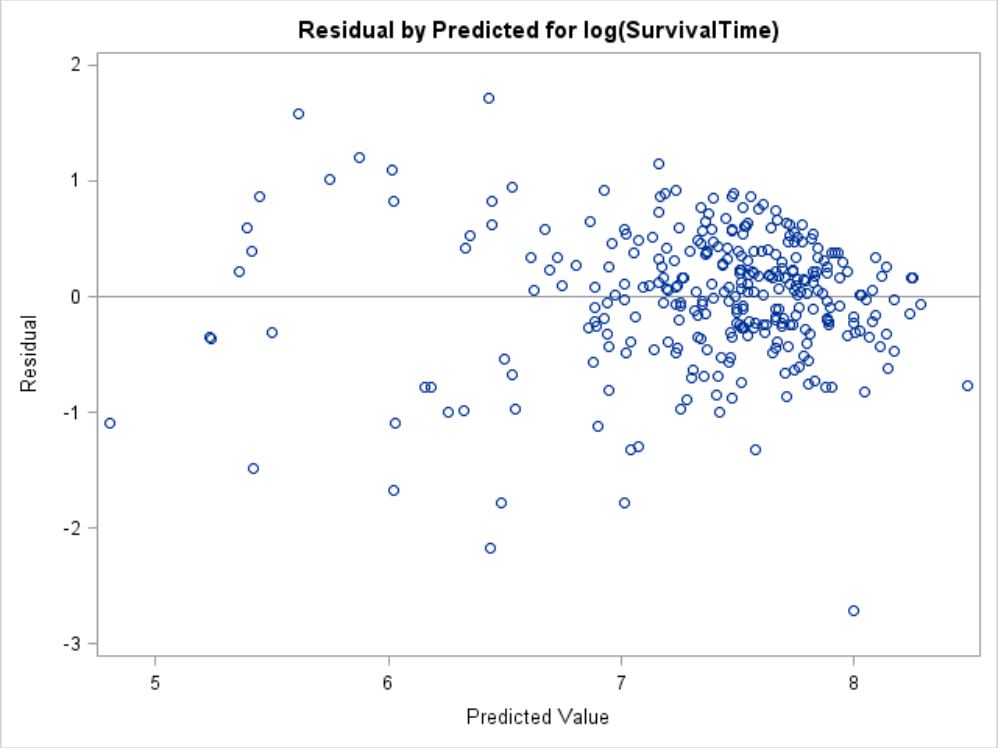
Analysis of Variance

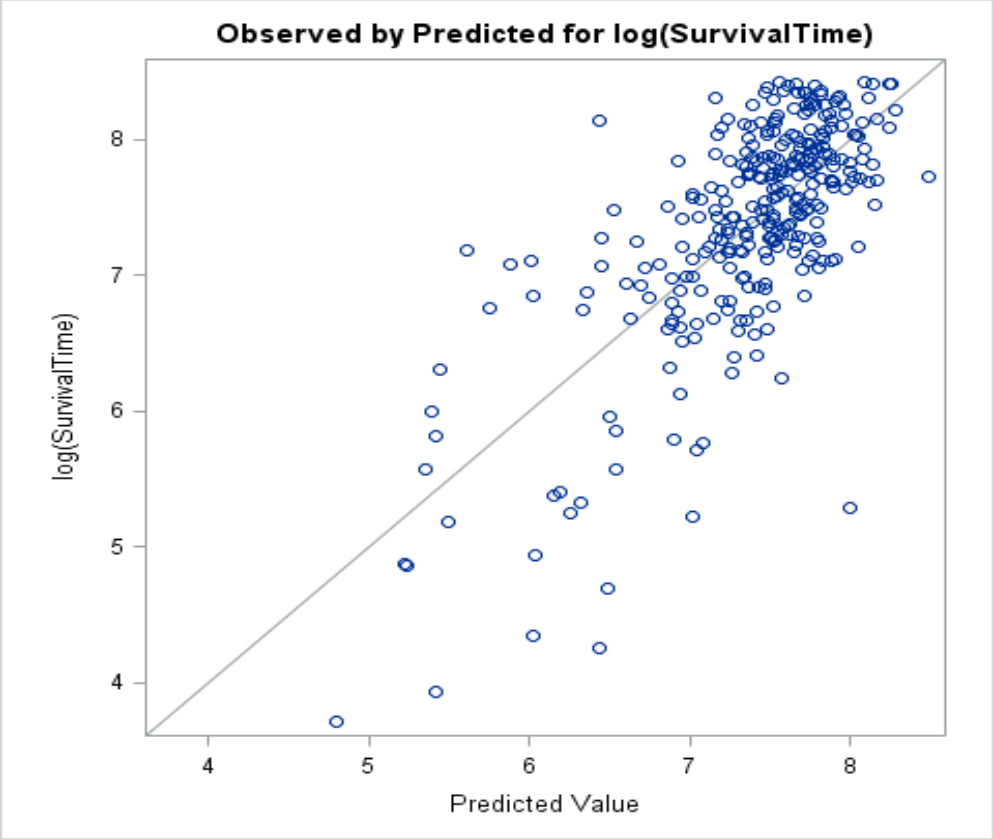
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	8	109.26845	13.65856	40.91	<.0001
Error	301	100.50500	0.33390		
Corrected Total	309	209.77345			

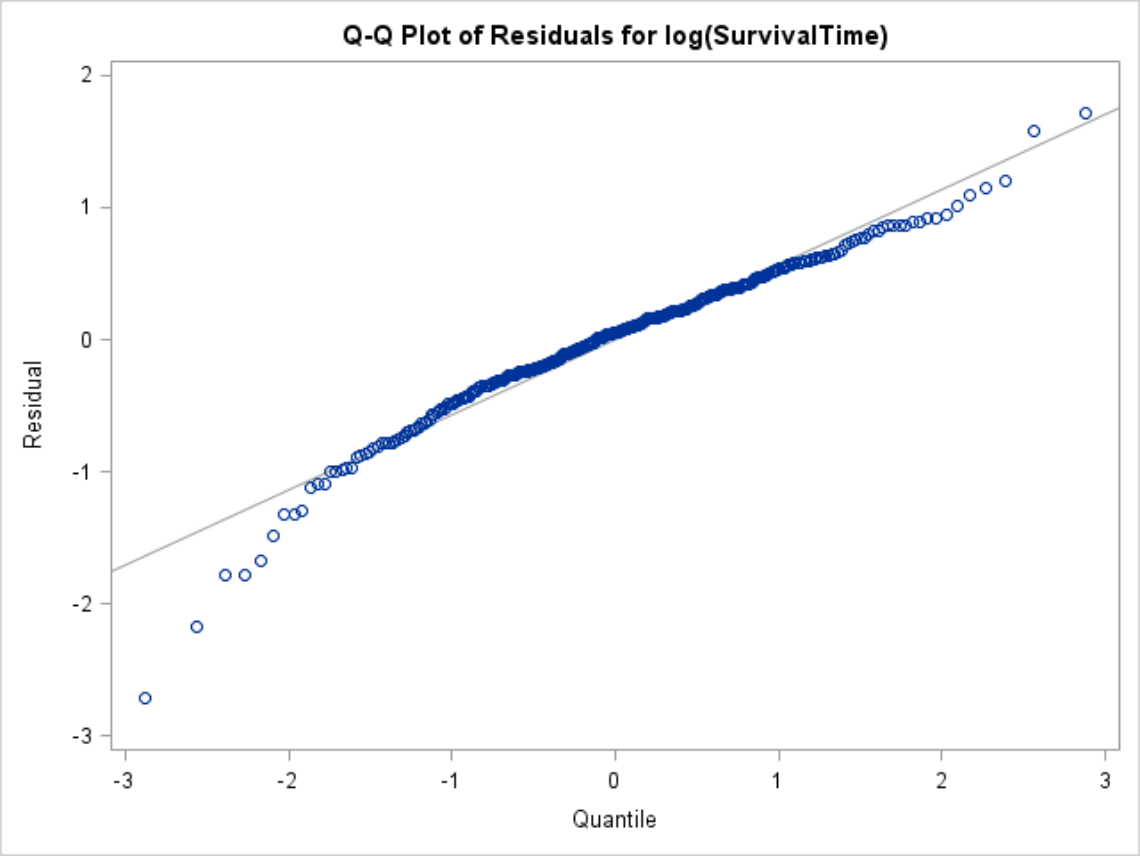
Root MSE	0.57784	R-Square	0.5209
Dependent Mean	7.37053	Adj R-Sq	0.5082
Coeff Var	7.83993		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	5.84251	0.52646	11.10	<.0001
Treatment	1	0.01169	0.06612	0.18	0.8598
Edema1	1	-0.91680	0.15422	-5.94	<.0001
Edema.5	1	-0.26571	0.11908	-2.23	0.0264
Bilirubin	1	-0.04837	0.00888	-5.45	<.0001
Albumin	1	0.35464	0.09297	3.81	0.0002
log(UrineCopper)	1	-0.20248	0.04658	-4.35	<.0001
log(AlkalinePhosphate)	1	0.20066	0.04792	4.19	<.0001
Histologicstage4	1	-0.23669	0.07646	-3.10	0.0021


Residual by Predicted for log(SurvivalTime)
Residual
Predicted Value
2
1
0
-1
-2
-3
5
6
7
8


Observed by Predicted for log(SurvivalTime)
log(SurvivalTime)
Predicted Value
8
7
6
5
4
4
5
6
7
8



Test for Normality Model 3

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.965378	Pr < W	<0.0001
Kolmogorov-Smirnov	D	0.062533	Pr > D	<0.0100
Cramer-von Mises	W-Sq	0.288054	Pr > W-Sq	<0.0050
Anderson-Darling	A-Sq	1.868865	Pr > A-Sq	<0.0050

Model 4

Linear Regression Results

The REG Procedure
Model: Linear_Regression_Model
Dependent Variable: log(SurvivalTime)

Number of Observations Read	418
Number of Observations Used	310
Number of Observations with Missing Values	108

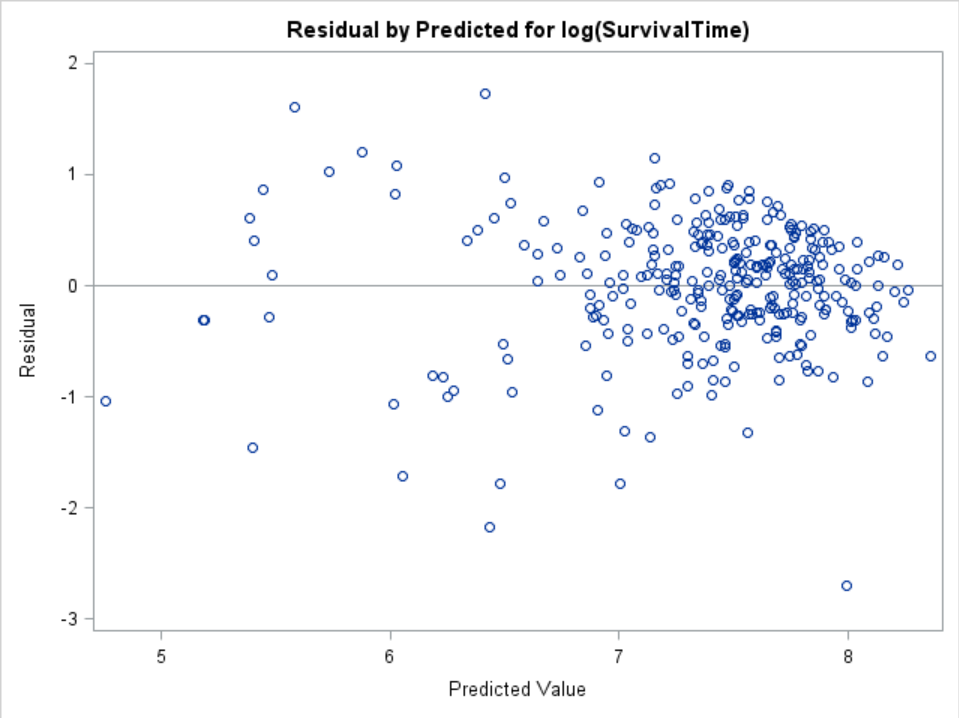
Analysis of Variance

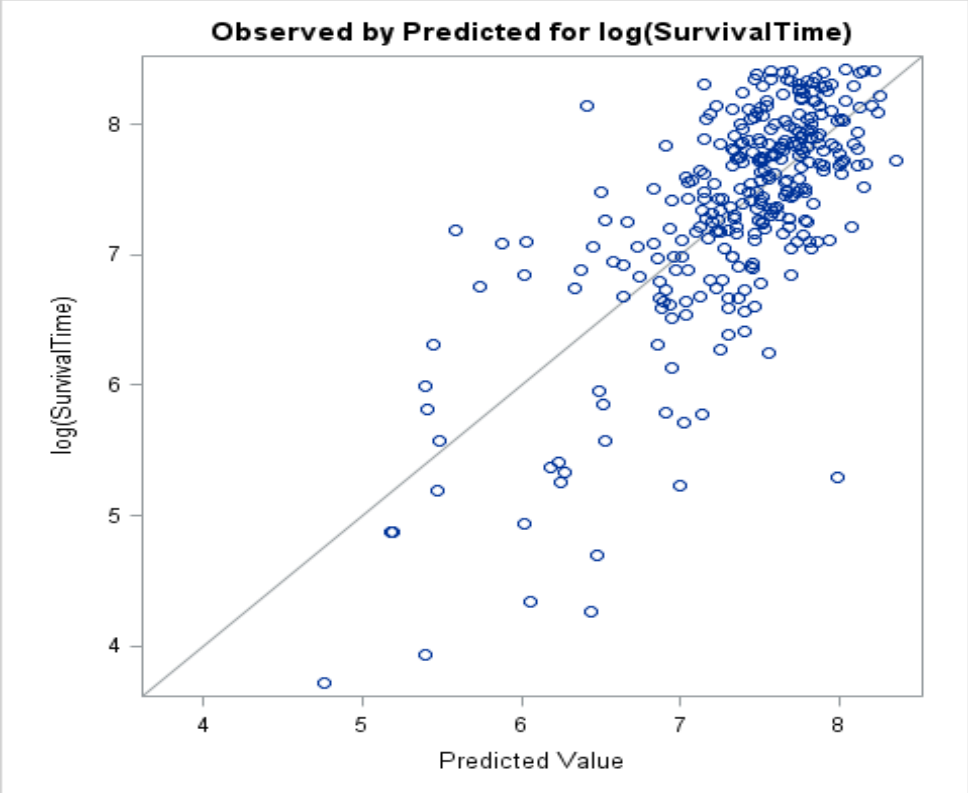
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	8	109.77545	13.72193	41.30	<.0001
Error	301	99.99800	0.33222		
Corrected Total	309	209.77345			

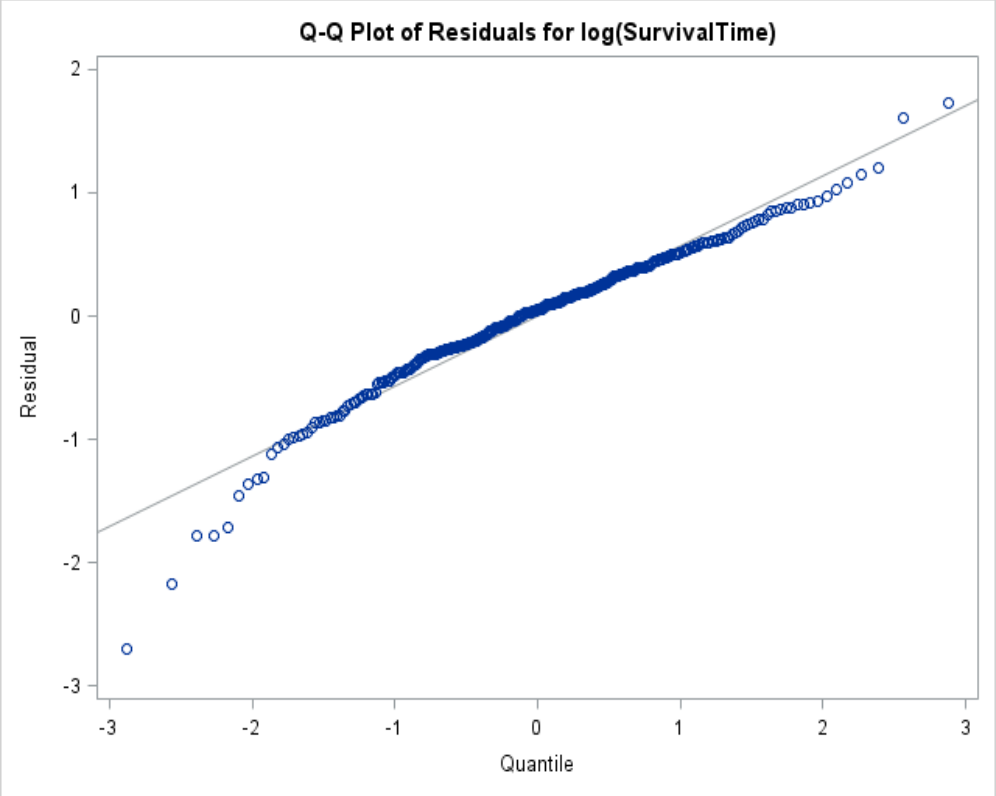
Root MSE	0.57638	R-Square	0.5233
Dependent Mean	7.37053	Adj R-Sq	0.5106
Coeff Var	7.82013		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	7.27041	0.40929	17.76	<.0001
Treatment	1	0.01319	0.06594	0.20	0.8417
Edema1	1	-0.91599	0.15378	-5.96	<.0001
Edema.5	1	-0.26727	0.11878	-2.25	0.0252
Bilirubin	1	-0.04926	0.00888	-5.55	<.0001
Albumin	1	0.35503	0.09273	3.83	0.0002
log(UrineCopper)	1	-0.53336	0.09579	-5.57	<.0001
Histologicstage4	1	-0.23464	0.07628	-3.08	0.0023
LogAlk*logUrinecopper	1	0.04627	0.01057	4.38	<.0001


Residual by Predicted for log(SurvivalTime)
Residual
Predicted Value
2
1
0
-1
-2
-3
5
6
7
8


Observed by Predicted for log(SurvivalTime)
log(SurvivalTime)
Predicted Value
8
7
6
5
4
4
5
6
7
8



Test for Normality Model 4

Tests for Normality				
Test	Statistic		p Value	
Shapiro-Wilk	W	0.965378	Pr < W	<0.0001
Kolmogorov-Smirnov	D	0.062533	Pr > D	<0.0100
Cramer-von Mises	W-Sq	0.288054	Pr > W-Sq	<0.0050
Anderson-Darling	A-Sq	1.868865	Pr > A-Sq	<0.0050

ANOVA

One-Way Analysis of Variance

Results

The ANOVA Procedure

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	27436.7	27436.7	0.02	0.8830
Error	310	392379877.4	1265741.5		
Corrected Total	311	392407314.1			

R-Square	Coeff Var	Root MSE	Survival Time Mean
0.000070	56.07421	1125.052	2006.362

Source	DF	Anova SS	Mean Square	F Value	Pr > F
Treatment	1	27436.72216	27436.72216	0.02	0.8830

Test for Variance

One-Way Analysis of Variance

Results

The ANOVA Procedure

Levene's Test for Homogeneity of Survival Time Variance ANOVA of Squared Deviations from Group Means					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Treatment	1	1.484E12	1.484E12	0.67	0.4135
Error	310	6.863E14	2.214E12		

Normality Test

Goodness-of-Fit Tests for Normal Distribution				
Test	Statistic		p Value	
Kolmogorov-Smirnov	D	0.06508636	Pr > D	<0.010
Cramer-von Mises	W-Sq	0.29626752	Pr > W-Sq	<0.005
Anderson-Darling	A-Sq	2.00438606	Pr > A-Sq	<0.005

Logistic Regression

Final Model

Logistic Regression Results

The LOGISTIC Procedure

Number of unique profiles: 310

Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-13.5214	2.2806	35.1504	<.0001
Age	1	0.0585	0.0160	13.4282	0.0002
Treatment1	1	0.1614	0.3116	0.2682	0.6045
Ascites	1	2.3733	1.1039	4.6222	0.0316
Bilirubin	1	0.2077	0.0725	8.2062	0.0042
SGOT	1	0.00739	0.00299	6.1254	0.0133
Alkaline phosphatase	1	0.000212	0.000069	9.4520	0.0021
Urine copper	1	0.00479	0.00221	4.7056	0.0301
Prothrombin time	1	0.7065	0.1912	13.6585	0.0002

Odds Ratio Estimates

Effect	Point Estimate	95% Wald Confidence Limits	
Age	1.060	1.028	1.094
Treatment1	1.175	0.638	2.164
Ascites	10.733	1.233	93.401
Bilirubin	1.231	1.068	1.419
SGOT	1.007	1.002	1.013
Alkaline phosphatase	1.000	1.000	1.000
Urine copper	1.005	1.000	1.009
Prothrombin time	2.027	1.394	2.948

Goodness of fit test

Model Convergence Status

Convergence criterion (GCONV=1E-8) satisfied.

Deviance and Pearson Goodness-of-Fit Statistics

Criterion	Value	DF	Value/DF	Pr > ChiSq
Deviance	268.0149	301	0.8904	0.9146
Pearson	759.7415	301	2.5241	<.0001

Hosmer and Lemeshow Goodness-of-Fit Test

Chi-Square	DF	Pr > ChiSq
32.0414	8	<.0001

Overall Significance Test

Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	149.2524	8	<.0001
Score	115.5059	8	<.0001
Wald	70.4152	8	<.0001

Deviance Test

Restricted Model: Removed Urine Cooper and Ascites

Logistic Regression Results

The LOGISTIC Procedure

Number of unique profiles: 312

Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-14.3029	2.2334	41.0116	<.0001
Age	1	0.0606	0.0153	15.7394	<.0001
Treatment1	1	0.2447	0.3025	0.6544	0.4185
Bilirubin	1	0.2766	0.0683	16.4054	<.0001
SGOT	1	0.00721	0.00292	6.0871	0.0136
Alkaline phosphatase	1	0.000224	0.000067	11.0650	0.0009
Prothrombin time	1	0.8000	0.1888	17.9607	<.0001

Odds Ratio Estimates

Effect	Point Estimate	95% Wald Confidence Limits	
Age	1.062	1.031	1.095
Treatment1	1.277	0.706	2.311
Bilirubin	1.319	1.153	1.507
SGOT	1.007	1.001	1.013
Alkaline phosphatase	1.000	1.000	1.000
Prothrombin time	2.225	1.537	3.222

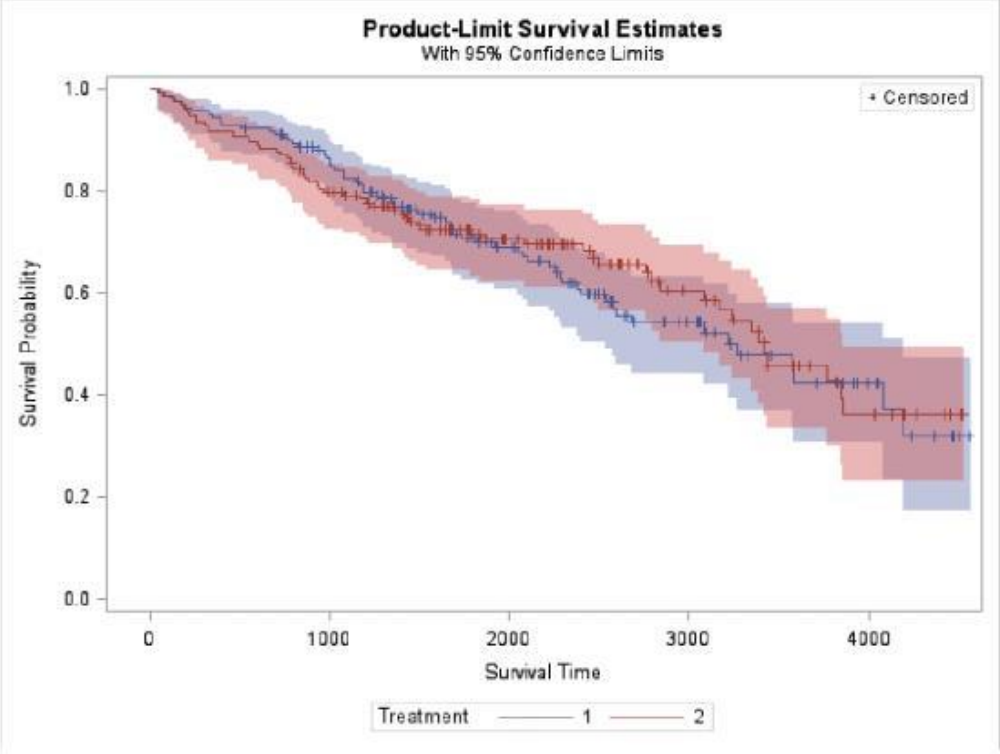
Model Fit Statistics

Criterion	Intercept Only	Intercept and Covariates
AIC	422.121	296.004
SC	425.864	322.205
-2 Log L	420.121	282.004

Survival Time

Comparing survival functions for treatment

Test of Equality over Strata			
Test	Chi-Square	DF	Pr > Chi-Square
Log-Rank	0.1017	1	0.7498
Wilcoxon	0.0018	1	0.9664
-2Log(LR)	0.0634	1	0.8013



Propotional hazard model

Testing Global Null Hypothesis: BETA=0			
Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	190.3044	9	<.0001
Score	327.4773	9	<.0001
Wald	210.2670	9	<.0001

Analysis of Maximum Likelihood Estimates								
Parameter	DF	Parameter Estimate	Standard Error	Chi-Square	Pr > ChiSq	Hazard Ratio	95% Hazard Ratio Confidence Limits	
Treatment	1	0.09140	0.18890	0.2341	0.6285	1.096	0.757	1.587
Age	1	0.03212	0.00952	11.3771	0.0007	1.033	1.014	1.052
Edema1	1	0.93622	0.31191	9.0095	0.0027	2.550	1.384	4.700
Bilirubin	1	0.09270	0.01875	24.4546	<.0001	1.097	1.058	1.138
Albumin	1	-0.85849	0.25833	11.0443	0.0009	0.424	0.255	0.703
Urine copper	1	0.00279	0.0009174	9.2235	0.0024	1.003	1.001	1.005
SGOT	1	0.00421	0.00162	6.7260	0.0095	1.004	1.001	1.007
Prothrombin time	1	0.26060	0.08615	9.1509	0.0025	1.298	1.096	1.536
Histologicstage4	1	0.48958	0.21465	5.2024	0.0226	1.632	1.071	2.485