The rats, part 2

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Data:

```
0 0 10
1 3 10
2 4 10
3 6 10
4 8 10
5 9 10
```

SAS code and output:

```
data rat;
  infile "rat2.dat";
  input dose deaths trials;

proc print;

proc logistic;
  model deaths/trials = dose;
  output out=rat2 pred=pred lower=lcl upper=ucl;

proc print data=rat2;
```

```
Obs    dose    deaths    trials
 1       0        0        10
 2       1        3        10
 3       2        4        10
 4       3        6        10
 5       4        8        10
 6       5        9        10

The LOGISTIC Procedure
               Model Information
Data Set                          WORK.RAT
Response Variable (Events)        deaths
Response Variable (Trials)        trials
```

Model	binary logit
Optimization Technique	Fisher's scoring

Number of Observations Read	6
Number of Observations Used	6
Sum of Frequencies Read	60
Sum of Frequencies Used	60

Response Profile

Ordered Value	Binary Outcome	Total Frequency
1	Event	30
2	Nonevent	30

Model Convergence Status

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

Model Fit Statistics

Criterion	Intercept Only	Intercept and Covariates
AIC	85.178	62.122
SC	87.272	66.310
-2 Log L	83.178	58.122

Testing Global Null Hypothesis: BETA=0

Test	Chi-Square	DF	Pr > ChiSq
Likelihood Ratio	25.0562	1	<.0001
Score	21.9657	1	<.0001
Wald	16.1449	1	<.0001

Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-2.3619	0.6719	12.3585	0.0004
dose	1	0.9448	0.2351	16.1449	<.0001

The LOGISTIC Procedure

Odds Ratio Estimates

Effect	Point Estimate	95% Wald Confidence Limits	
dose	2.572	1.622	4.078

Association of Predicted Probabilities and Observed Responses

Percent Concordant	79.2	Somers' D	0.689
Percent Discordant	10.3	Gamma	0.769

Percent Tied	10.4	Tau-a	0.350
Pairs	900	c	0.844

Obs	dose	deaths	trials	pred	lcl	ucl
1	0	0	10	0.08612	0.02463	0.26017
2	1	3	10	0.19511	0.08646	0.38304
3	2	4	10	0.38405	0.24041	0.55124
4	3	6	10	0.61595	0.44876	0.75959
5	4	8	10	0.80489	0.61696	0.91354
6	5	9	10	0.91388	0.73983	0.97537