

Table 11-7. Analysis of Smell (Continued)

(d) MODEL 2: RANCH HANDS – INITIAL DIOXIN – ADJUSTED			
Analysis Results for Log ₂ (Initial Dioxin)			
Adjusted Relative Risk			
n	(95% C.I.) ^a	p-Value	
469	0.83 (0.46,1.50)	0.534	

^a Relative risk for a twofold increase in initial dioxin.

Note: Results are not adjusted for race because of the sparse number of Ranch Hands with an abnormal sense of smell.

(e) MODEL 3: RANCH HANDS AND COMPARISONS BY DIOXIN CATEGORY – UNADJUSTED				
Dioxin Category	n	Number (%) Abnormal	Est. Relative Risk (95% C.I.) ^{ab}	p-Value
Comparison	1,209	18 (1.5)		
Background RH	378	8 (2.1)	1.42 (0.61,3.31)	0.420
Low RH	238	7 (2.9)	2.01 (0.83,4.86)	0.122
High RH	239	4 (1.7)	1.14 (0.38,3.40)	0.821
Low plus High RH	477	11 (2.3)	1.51 (0.69,3.29)	0.300

^a Relative risk and confidence interval relative to Comparisons.

^b Adjusted for percent body fat at the time of the blood measurement of dioxin.

Note: RH = Ranch Hand.

Comparison: 1987 Dioxin ≤ 10 ppt.

Background (Ranch Hand): 1987 Dioxin ≤ 10 ppt.

Low (Ranch Hand): 1987 Dioxin > 10 ppt, 10 ppt < Initial Dioxin ≤ 94 ppt.

High (Ranch Hand): 1987 Dioxin > 10 ppt, Initial Dioxin > 94 ppt.

(f) MODEL 3: RANCH HANDS AND COMPARISONS BY DIOXIN CATEGORY – ADJUSTED			
Adjusted Relative Risk			
Dioxin Category	n	(95% C.I.) ^a	p-Value
Comparison	1,191		
Background RH	373	1.04 (0.40,2.73)	0.929
Low RH	234	1.57 (0.61,4.06)	0.353
High RH	235	0.82 (0.23,2.92)	0.758
Low plus High RH	469	1.13 (0.48,2.68)	0.777

^a Relative risk and confidence interval relative to Comparisons.

Note: RH = Ranch Hand.

Comparison: 1987 Dioxin ≤ 10 ppt.

Background (Ranch Hand): 1987 Dioxin ≤ 10 ppt.

Low (Ranch Hand): 1987 Dioxin > 10 ppt, 10 ppt < Initial Dioxin ≤ 94 ppt.

High (Ranch Hand): 1987 Dioxin > 10 ppt, Initial Dioxin > 94 ppt.

Table 11-7. Analysis of Smell (Continued)

(g) MODEL 4: RANCH HANDS – 1987 DIOXIN – UNADJUSTED				
1987 Dioxin Category Summary Statistics			Analysis Results for Log ₂ (1987 Dioxin + 1)	
1987 Dioxin	n	Number (%) Abnormal	Estimated Relative Risk (95% C.I.) ^a	p-Value
Low	285	7 (2.5)	0.89 (0.65,1.23)	0.481
Medium	286	6 (2.1)		
High	284	6 (2.1)		

^a Relative risk for a twofold increase in 1987 dioxin.

Note: Low = ≤7.9 ppt; Medium = >7.9–19.6 ppt; High = >19.6 ppt.

(h) MODEL 4: RANCH HANDS – 1987 DIOXIN – ADJUSTED			
Analysis Results for Log ₂ (1987 Dioxin + 1)			
n	Adjusted Relative Risk (95% C.I.) ^a		p-Value
842	0.83 (0.56,1.22)		0.333

^a Relative risk for a twofold increase in 1987 dioxin.

Note: Results are not adjusted for race because of the sparse number of Ranch Hands with an abnormal sense of smell.

11.2.2.2.2 Visual Fields

All results from the analysis of visual fields from Models 1, 3, and 4 were nonsignificant (Table 11-8(a,b,e–h): $p > 0.38$ for each analysis). A significant positive association between visual fields and initial dioxin was found in both the unadjusted and adjusted Model 2 analyses (Table 11-8(c,d): Est. RR=3.93, $p=0.040$; and Adj. RR=4.37, $p=0.049$, respectively). One Ranch Hand in the high initial dioxin category had abnormal visual fields.

Table 11-8. Analysis of Visual Fields

(a) MODEL 1: RANCH HANDS VS. COMPARISONS – UNADJUSTED					
Occupational Category	Group	n	Number (%) Abnormal	Est. Relative Risk (95% C.I.)	p-Value
<i>All</i>	<i>Ranch Hand</i>	866	2 (0.2)	0.57 (0.11,2.97)	0.493
	<i>Comparison</i>	1,245	5 (0.4)		
Officer	Ranch Hand	340	0 (0.0)	--	0.999 ^a
	Comparison	492	1 (0.2)		
Enlisted Flyer	Ranch Hand	151	1 (0.7)	0.61 (0.06,6.83)	0.691
	Comparison	186	2 (1.1)		
Enlisted Groundcrew	Ranch Hand	375	1 (0.3)	0.76 (0.07,8.36)	0.819
	Comparison	567	2 (0.4)		

^a P-value determined using a chi-square test with continuity correction because of the sparse number of participants with abnormal visual fields.

--: Results not presented because of the sparse number of participants with abnormal visual fields.

(b) MODEL 1: RANCH HANDS VS. COMPARISONS – ADJUSTED		
Occupational Category	Adjusted Relative Risk (95% C.I.)	p-Value
<i>All</i>	0.49 (0.09,2.64)	0.387
Officer	--	--
Enlisted Flyer	0.48 (0.04,5.78)	0.566
Enlisted Groundcrew	0.70 (0.06,8.00)	0.778

--: Results not presented because of the sparse number of participants with abnormal visual fields.

(c) MODEL 2: RANCH HANDS – INITIAL DIOXIN – UNADJUSTED				
Initial Dioxin Category Summary Statistics			Analysis Results for Log ₂ (Initial Dioxin) ^a	
Initial Dioxin	n	Number (%) Abnormal	Estimated Relative Risk (95% C.I.) ^b	p-Value
Low	160	0 (0.0)	3.93 (0.93,16.64)	0.040
Medium	162	0 (0.0)		
High	157	1 (0.6)		

^a Adjusted for percent body fat at the time of the blood measurement of dioxin.

^b Relative risk for a twofold increase in initial dioxin.

Note: Low = 27–63 ppt; Medium = >63–152 ppt; High = >152 ppt.