Supplementary Appendix

This appendix has been provided by the authors to give readers additional information about their work.

Supplement to: SUPPORT Study Group of the Eunice Kennedy Shriver NICHD Neonatal Research Network. Target ranges of oxygen saturation in extremely preterm infants. N Engl J Med 2010;362:1959-69.
DOI: 10.1056/NEJMoa0911781.

Appendix Table 1: Cause of Death in a Randomized Trial of Lower versus Higher Oxygen Saturation Targets in Extremely Low Birth Weight Infants

Category – no./total no. (%)	Lower Saturation Group n/N (%)	Higher Saturation Group n/N (%)
Respiratory distress syndrome	31/130 (23.8)	31/107 (29.0)
Infection	25/130 (19.2)	21/107 (19.6)
Necrotizing enterocolitis	23/130 (17.7)	14/107 (13.1)
Bronchopulmonary dysplasia	14/130 (10.8)	10/107 (9.3)
Central nervous system insult	12/130 (9.2)	9/107 (8.4)
Immaturity	7/130 (5.4)	3/107 (2.8)
Other	18/130 (13.8)	19/107 (17.8)

Causes of death did not differ

Appendix Table 2: Effect of Retinopathy Adjudication for Low vs. High Oxygen Saturation Target Groups

Characteristic	Lower Saturation Group (N=654) n/N (%)	Higher Saturation Group (N=662) n/N (%)	Relative Risk for Low SpO_2 vs. High SpO_2 (95% CI)	Adjusted P value
Severe retinopathy/death, All outcomes (non-adjudicated)	171/605 (28.3)	198/616 (32.1)	0.9 (0.76, 1.06)	0.205
Severe retinopathy among survivors, All outcomes (non-adjudicated)	41/475 (8.6)	91/509 (17.9)	0.52 (0.37, 0.73)	<0.001
Severe retinopathy/death, Cases considered confirmed by majority rule*	171/642 (26.6)	198/656 (30.2)	0.91 (0.77, 1.07)	0.253
Severe retinopathy among survivors, Cases considered confirmed by majority rule*	41/512 (8.0)	91/549 (16.6)	0.52 (0.37, 0.73)	<0.001
Severe retinopathy/death, Cases considered confirmed majority rule* when "unknown cases" considered to have severe retinopathy†	183/654 (28.0)	204/662 (30.8)	0.93 (0.79, 1.1)	0.412
Severe retinopathy among survivors, Cases confirmed by majority rule when "unknown cases" considered to have severe retinopathy†	53/524 (10.1)	97/555 (17.5)	0.62 (0.45, 0.84)	0.002

Relative risks are adjusted for gestational age stratification, center, and familial clustering;

*Majority rule: If two reviewers determined that the infant 'Probably never had retinopathy that met criteria for severe retinopathy intervention (laser/cryotherapy) in either eye' then retinopathy=N; If two reviewers determined that 'There is no way to know if severe retinopathy criteria may have been met' then severe retinopathy=missing.

†If two reviewers determined that the infant ‘Probably never had retinopathy that met criteria for severe retinopathy intervention (laser/cryotherapy) in either eye’ then retinopathy=N; if two reviewers determined that ‘There is no way to know if severe retinopathy criteria may have been met’ then severe retinopathy=Y.

Appendix Table 3. Other Outcomes in a Randomized Trial of Lower versus Higher Oxygen Saturation Targets in Extremely Low Birth Weight Infants

Outcome	Lower Saturation Group	Higher Saturation Group	Adjusted P value[§]
Length of stay any hospital, (days) m±SE*	104.5 ± 2.0	106.4 ± 2.0	0.45
Length of stay at study hospital, (days) m±SE*	99.8 ± 2.0	103.0 ± 2.0	0.22
Duration of mechanical ventilation, (days) m±SE[†]	25.5 ± 1.1	26.9 ± 1.0	0.30
Duration of oxygen supplementation, (days) m±SE[†]	59.8 ± 1.6	67.4 ± 1.5	<0.001
Continuous positive airway pressure, (days) m±SE[†]	17.1 ± 0.6	17.0 ± 0.6	0.94
Nasal synchronized intermittent mandatory ventilation, (days) m±SE[†]	3.3 ± 0.3	3.8 ± 0.3	0.14
Alive off mechanical ventilation by day 14, (days) – no. (%)	332/644 (51.6)	326/655 (49.8)	0.86
Alive off mechanical ventilation by day 7, (days) – no. (%)	351/648 (54.2)	329/659 (49.9)	0.27
Percent of time in actual oxygen saturation range 84-96%, (%) m±SD‡	66.9 ± 13.9	68.0 ± 15.2	0.16¶

*Among survivors to discharge, transfer or one year; maximum value is 366 days

[†]Among survivors to discharge, transfer or 120 days; maximum value is 120 days

‡Percent of time based only on total time on oxygen supplementation

§Adjusted for stratification factors (study center, gestational age group) as well as for familial clustering

¶Unadjusted P value