

Supplementary Table 1: Patient characteristics, including infants exposed to magnesium sulphate for other indications (pre-eclampsia or tocolysis) and infants exposed to magnesium sulphate with indication unknown.

	MgSO ₄ for fetal neuroprotection (n = 1,387)	No MgSO ₄ (n = 3,868)	MgSO ₄ for other indications ¹ (n=214)	MgSO ₄ with indication unknown (n = 546)	p-value ² (FN vs. No-MgSO ₄)	p-value ² (FN vs. Other Indication)	p-value ² (FN vs. IU)
Gestational Age, weeks, mean (SD)	28.0 (2.3)	28.3 (2.3)	28.5(2.0)	28.4 (2.1)	< 0.01	< 0.01	< 0.01
Birth weight, g, mean (SD)	1,160 (374)	1,232 (402)	1,057 (326)	1180 (389)	< 0.01	< 0.01	0.32
Birth weight <1000g, n(%)	526 (37.9)	1,207 (31.2)	100 (46.9)	192 (35.2)	< 0.01	0.01	0.26
Birth weight < 1500g, n (%)	1,113 (80.2)	2,845 (73.6)	189 (88.7)	424 (77.7)	< 0.01	< 0.01	0.20
GA group, n(%)					< 0.01	0.06	< 0.01
22 - 28 weeks	731(52.7)	1,813 (46.9)	98 (45.8)	252 (46.1)			
29 - 31 weeks	656 (47.3)	2,055 (53.1)	116 (54.2)	294 (53.8)			
Female, n (%)	623 (44.9)	1,709 (44.2)	97 (45.5)	273 (50.1)	0.64	0.01	0.04
SGA (BW < 10%), n(%)	147 (10.6)	273 (7.1)	56 (26.3)	80 (14.7)	< 0.01	< 0.01	0.01
Outborn, n(%)	81 (5.8)	714 (18.5)	13 (6.1)	39 (7.1)	< 0.01	0.87	0.29
Chorioamnionitis, n(%)	265 (23.3)	569 (20.8)	6 (4.1)	55 (14.5)	0.09	< 0.01	< 0.01
Caesarean, n(%)	766 (55.3)	2,196 (56.9)	183 (85.5)	361 (66.2)	0.29	< 0.01	< 0.01
Antenatal corticosteroids, n(%)	1,342 (97.1)	3,170 (83.4)	203 (95.3)	516 (95.0)	< 0.01	0.16	0.03
Maternal hypertension, n(%)	257 (18.7)	405 (10.6)	174 (81.3)	226 (42.2)	< 0.01	< 0.01	< 0.01
Multiple gestation, n(%)	429 (30.9)	1,166 (30.1)	27 (12.7)	153 (28.0)	0.58	< 0.01	0.21
ROM					0.13	< 0.01	< 0.01
<24 hrs	1,063 (78.2)	2,860 (76.7)	200 (94.8)	446 (84.5)			
24 hrs - 1 week	175 (12.9)	463 (12.4)	10 (4.7)	59 (11.2)			
> 1 weeks	121 (8.9)	404 (10.8)	1 (0.5)	23 (4.4)			
Infants GA established in first trimester ³ , n(%)	835 (60.2)	1,896 (49.0)	108 (50.5)	284 (52.0)	< 0.01	0.07	< 0.01

1. 'Other' indications refers to pre-eclampsia or tocolysis.

2. Chi-square test for categorical variables and T test or Wilcoxon Rank test, as appropriate, for continuous variables were used for the comparisons.
3. By IVF or LMP or Early US

BW, birthweight; FN, fetal neuroprotection; GA, gestational age; MgSO₄, magnesium sulphate; ROM, rupture of membranes; SD, standard deviation; SGA, small for gestational age; IU, indication unknown

Supplementary Table 2: Resuscitation outcomes, including infants exposed to magnesium sulphate for other indications (pre-eclampsia or tocolysis) and infants exposed to magnesium sulphate with indication unknown.

	MgSO ₄ for fetal neuro-protection (n = 1,387)	No MgSO ₄ (n = 3,868)	MgSO ₄ for other indications ¹ (n = 214)	MgSO ₄ with indication unknown (n = 546)	p-value ² (FN vs. No-MgSO ₄)	p-value ² (FN vs. Other Indication)	p-value ² (FN vs. IU)
Any resuscitation needed ³ , n(%)	1,324 (95.7)	3,624 (93.8)	204 (95.8)	521 (95.4)	< 0.01	0.97	0.76
CPAP only, n(%)	561 (40.7)	1,165 (30.5)	65 (30.7)	178 (32.6)	< 0.01	< 0.01	< 0.01
Bag/mask or Neopuff ventilation, n(%)	781 (56.6)	2,344 (61.4)	136 (64.1)	319 (58.4)	< 0.01	0.04	0.35
Intubation and ventilation, n(%)	557 (40.4)	1,669(43.7)	63 (29.7)	204 (37.4)	< 0.01	< 0.01	0.28
Chest compressions, n(%)	54 (3.9)	266 (7.0)	9 (4.2)	24 (4.4)	< 0.01	0.82	0.60
Epinephrine (ETT or IV), n(%)	26 (1.9)	119 (3.1)	4 (1.9)	8 (1.5)	0.01	0.99	0.54
Maximum FiO ₂ , median (IQR)	60 (40 - 100)	80 (40 - 100)	65 (40 - 100)	70 (40 - 100)	< 0.01	0.17	0.02
5 minute Apgar < 7, n(%)	412 (29.8)	1,205 (31.6)	74 (34.7)	143 (26.2)	0.09	0.14	0.12
Surfactant use, n(%)	735 (53.0)	2,163 (55.9)	121 (56.5)	298 (54.6)	0.02	0.33	0.53
SNAPII score > 20, n(%)	1,086 (79.3)	3,074 (80.6)	184 (86.8)	470 (86.1)	0.29	< 0.01	< 0.01

. Chi-square test for categorical variables and Wilcoxon Rank Sum test for continuous variables.

3. Any resuscitation defined as mask continuous positive airway pressure or positive pressure ventilation, endotracheal tube intubation and ventilation, chest compressions, or epinephrine.

CPAP, continuous positive airway pressure; ETT, endotracheal tube; FiO₂, fraction of inspired oxygen; FN, fetal neuroprotection; IQR, inter-quartile range; IV, intravenous; MgSO₄, magnesium sulphate; SNAPII, score for neonatal acute physiology II; IU, indication unknown

Supplementary Table 3: Univariate and multivariable outcomes of infants exposed to magnesium sulfate (any indication) compared with unexposed infants.

	MgSO ₄ for any indication [†] (n = 2,147)	No MgSO ₄ (n = 3,868)	p-value	Unadjusted OR (95% CI)*	Adjusted OR (95% CI) *†
Intensive resuscitation ^{††} , n (%)	840 (39.4)	1,702 (44.6)	< 0.01	0.81 (0.73, 0.90)	0.87 (0.69, 1.13)
Death, n (%)	140 (6.5)	367 (9.5)	< 0.01	0.67 (0.54, 0.82)	0.64 (0.46, 0.89)
Bronchopulmonary dysplasia, n (%)	418 (20.8)	703 (20.0)	0.44	1.05 (0.92, 1.21)	1.11 (0.94, 1.30)
NEC stage ≥ 2, n (%)	109 (5.1)	197 (5.1)	0.99	0.99 (0.79, 1.27)	0.89 (0.68, 1.17)
Grade 3 or 4 IVH or PVL, n (%)	246 (12.5)	493 (14.3)	0.06	0.86 (0.73, 1.01)	1.02 (0.76, 1.36)
ROP stage ≥ 3, n (%)	99 (8.8)	158 (8.9)	0.94	0.99 (0.76, 1.29)	0.86 (0.59, 1.25)
Sepsis, n (%)	359 (16.7)	587 (15.2)	0.11	1.12 (0.97, 1.30)	1.02 (0.87, 1.20)
Composite outcome [§] , n (%)	729 (33.9)	1,378 (35.6)	0.19	0.93 (0.83, 1.04)	1.03 (0.85, 1.24)

* Unadjusted and adjusted OR determined for MgSO₄ vs. No-MgSO₄

† Adjusted for GA, sex, small for GA, outborn status, chorioamnionitis, mode of delivery, maternal hypertension, antenatal corticosteroid use and multiple gestation using multiple logistic regression models with GEE approach to account for the correlated data within each site (or site effects).

†† Intensive resuscitation defined as need for intubation and ventilation or chest compressions or epinephrine administration in the delivery room

§ Composite outcome defined as mortality or any major neonatal morbidity

|| Including infants exposed to MgSO₄ for fetal neuroprotection, pre-eclampsia, tocolysis or for an unknown indication

IVH, intraventricular haemorrhage; MgSO₄, magnesium sulphate; NEC, necrotizing enterocolitis; PVL, periventricular leukomalacia;
ROP, retinopathy of prematurity