

**Table S1:** Univariate analysis of maternal and neonatal outcomes in the 38-IOL Group versus 39-Exp Group

Pregnancy Outcome	Induction (n = 937)	Expectant management (n = 1,276)	Standardized Difference
<b>Maternal Outcome</b>			
Caesarean Section	269 (28.7%)	333 (26.1%)	0.06
Instrumental Delivery	105 (11.2%)	130 (10.2%)	0.03
<b>Hypertensive Disorders</b>	N/A	73 (5.7%)	N/A
Gestational Hypertension	N/A	64 (5.0%)	N/A
Preeclampsia/Eclampsia/HELLP	N/A	9 (0.7%)	N/A
Induction of labour	N/A	678 (53.1%)	N/A
Intrapartum Fever	15 (1.6%)	20 (1.6%)	0
Shoulder dystocia	57 (6.1%)	52 (4.1%)	0.09
Anal Sphincter Injury	26 (2.8%)	35 (2.7%)	0
Postpartum Hemorrhage	29 (3.1%)	27 (2.1%)	0.06
<b>Neonatal Outcome</b>			
<b>Gestational Age at delivery, weeks</b>			
Mean (SD)	38.4 (0.3)	39.7 (0.6)	N/A
Median (IQR)	38.3 (38.1-38.6)	39.6 (39.1-40.1)	N/A
<b>Birthweight, grams</b>			
Mean (SD)	3497 (538)	3553 (496)	-0.11 *
Median (IQR)	3460 (3089-3855)	3510 (3200-3865)	-0.11 *
> 90th Percentile, n (%)	256 (27.3%)	201 (15.8%)	0.28
>4000, grams, n (%)	163 (17.4%)	225 (17.6%)	-0.01
>4500, grams, n (%)	35 (3.7%)	52 (4.1%)	-0.02
Neonatal composite morbidity <sup>a</sup> , n (%)	449 (47.9%)	401 (31.4%)	0.34*
Jaundice requiring phototherapy, n (%)	116 (12.4%)	79 (6.2%)	0.21*
Respiratory morbidity <sup>b</sup> , n (%)	114 (12.2%)	135 (10.6%)	0.05
Hypoglycemia, n (%)	256 (27.3%)	187 (14.7%)	0.31*
5-min Apgar <7, n (%)	43 (4.6%)	52 (4.1%)	0.03
NICU Admission, n (%)	259 (27.6%)	215 (16.8%)	0.26*
Neonatal death <sup>c</sup>	<6 (S)	<6 (S)	N/A
Stillbirth	0 (0%)	<6 (S)	N/A
<b>Length of stay in NICU, days</b>			
Mean (SD)	3.5 (3.8)	3.7 (4.3)	-0.04
Median (IQR)	2.4 (1.4-4.4)	2.2 (0.8-4.6)	0.10*

**Data Sources:** BORN Ontario (2012-2017)

**Cohort definition:** Women who had a singleton birth who met the inclusion criteria

**Abbreviations:** HELLP, H (hemolysis), EL (elevated liver enzymes), LP (low platelet count), NICU, Neonatal intensive care unit

\* refers to a p-value <0.05 or a standardized difference ≥ 0.1

<sup>a</sup> Neonatal composite morbidity is defined as the presence of any of the following: perinatal mortality (stillbirth or neonatal death), 5-minute Apgar score <7, admission to the neonatal intensive care unit (NICU), hypoglycemia, jaundice requiring phototherapy, or neonatal respiratory morbidity

<sup>b</sup> Refers to respiratory distress syndrome, transient tachypnea of the newborn infant, or need for respiratory support

<sup>c</sup> Neonatal death defined as death within 28 days of birth. Please note, neonatal deaths are only captured in 3/8 of the level 3 NICU units.

**Table S2:** Multivariable Analysis of the **38-IOL Group** versus **39-Exp Group** in nulliparous pregnancies only

Outcome	<b>38-IOL Group (n = 451) vs. 39-Exp Group (n=647)</b>	
	<b>Crude RR (95% CI)</b>	<b>Adjusted RR<sup>a</sup> (95% CI)</b>
<b>Maternal</b>		
Caesarean Delivery	1.17 (1.03-1.33)	1.06 (0.93-1.21)
Instrumental Delivery	1.14 (0.86-1.51)	1.28 (0.95-1.72)
Shoulder dystocia	1.88 (0.92-3.82)	1.49 (0.69-3.23)
<b>Neonatal</b>		
Neonatal composite morbidity <sup>c</sup>	1.54 (1.34-1.76)	1.49 (1.29-1.72)
NICU Admission	1.55 (1.26-1.9)	1.51 (1.21-1.88)
Jaundice requiring phototherapy	2.04 (1.42-2.93)	1.86 (1.28-2.71)
Hypoglycemia	1.88 (1.48-2.38)	1.84 (1.43-2.37)
Respiratory Morbidity <sup>d</sup>	1.17 (0.85-1.6)	1.07 (0.77-1.51)

<sup>a</sup> Adjusted for the following confounders: maternal age, pre-pregnancy BMI and diabetes type

<sup>b</sup> Neonatal composite morbidity is defined as the presence of any of the following: perinatal mortality (stillbirth or neonatal death), 5-minute Apgar score <7, admission to the neonatal intensive care unit (NICU), hypoglycemia, jaundice requiring phototherapy, or neonatal respiratory morbidity

<sup>c</sup> Refers to respiratory distress syndrome, transient tachypnea of the newborn infant, or need for respiratory support  
Data Sources: BORN Ontario (2012-2017), CIHI-DAD (2012-2015)

Cohort definition: Women who had a singleton birth who met the inclusion criteria

Abbreviations: NICU, Neonatal Intensive care unit; IOL, induction of labour; Exp., expectant management; RR, relative risk; CI, confidence intervals

**Table S3:** Multivariable Analysis of the 38-IOL Group versus 39-Exp Group in multiparous pregnancies only

Outcome	38-IOL Group (n = 486) vs. 39-Exp Group (n=629)	
	Crude RR (95% CI)	Adjusted RR <sup>a</sup> (95% CI)
<b>Maternal</b>		
Caesarean Delivery	1.00 (0.7-1.43)	0.93 (0.63-1.36)
Instrumental Delivery	1.09 (0.69-1.72)	1.22 (0.75-2.0)
Shoulder dystocia	1.33 (0.87-2.03)	1.33 (0.85-2.09)
<b>Neonatal</b>		
Neonatal composite morbidity <sup>c</sup>	1.53 (1.3-1.8)	1.47 (1.23-1.75)
NICU Admission	1.8 (1.4-2.31)	1.78 (1.36-2.34)
Jaundice requiring phototherapy	1.98 (1.31-3.0)	2.02 (1.28-3.2)
Hypoglycemia	1.86 (1.46-2.36)	1.65 (1.27-2.14)
Respiratory Morbidity <sup>d</sup>	1.14 (0.81-1.62)	1.16 (0.8-1.67)

<sup>a</sup> Adjusted for the following confounders: maternal age, pre-pregnancy BMI and diabetes type

<sup>b</sup> Neonatal composite morbidity is defined as the presence of any of the following: perinatal mortality (stillbirth or neonatal death), 5-minute Apgar score <7, admission to the neonatal intensive care unit (NICU), hypoglycemia, jaundice requiring phototherapy, or neonatal respiratory morbidity

<sup>c</sup> Refers to respiratory distress syndrome, transient tachypnea of the newborn infant, or need for respiratory support  
Data Sources: BORN Ontario (2012-2017), CIHI-DAD (2012-2015)

Cohort definition: Women who had a singleton birth who met the inclusion criteria

Abbreviations: NICU, Neonatal Intensive care unit; IOL, induction of labour; Exp., expectant management; RR, relative risk; CI, confidence intervals