

# Obstetric Trauma (With Instrument)

Name	Obstetric Trauma (With Instrument)
Short/Other Names	Obstetric Trauma: Vaginal Delivery With Instrument
Description	This indicator measures the rate of obstetric trauma (lacerations that are third degree or greater in severity) for instrument-assisted vaginal deliveries.  For further details, please see the <a href="#">General Methodology Notes</a> .
Interpretation	A lower rate is more desirable.
HSP Framework Dimension	Health System Outputs: Safe
Areas of Need	Getting Better
Geographic Coverage	All provinces/territories
Reporting Level/Disaggregation	National, Province/Territory, Region, Facility
Indicator Results	<a href="#">Accessing Indicator Results on Your Health System: In Depth</a>

## Identifying Information

Name	Obstetric Trauma (With Instrument)
Short/Other Names	Obstetric Trauma: Vaginal Delivery With Instrument

## Indicator Description and Calculation

Description	This indicator measures the rate of obstetric trauma (lacerations that are third degree or greater in severity) for instrument-assisted vaginal deliveries.
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For further details, please see the [General Methodology Notes](#).

The indicator is expressed as the rate of obstetric traumas per 100 instrument-assisted vaginal deliveries.

Calculation: Description Risk-adjusted rate = Observed cases ÷ Expected cases x Canadian average

Unit of Analysis: Single admission

Calculation: Geographic Assignment Place of service

Calculation: Type of Measurement Rate - per 100

Calculation: Adjustment Applied The following covariates are used in risk adjustment:  
For a detailed list of covariates used in the model, please refer to the [Model Specification](#) document.

Calculation: Method of Adjustment Logistic regression

### Description:

Vaginal delivery discharges with instrument-assisted delivery

### Inclusions:

1. Admission to an acute care institution (Facility Type Code = 1)
2. Delivery code (ICD-10-CA: O10–O16, O21–O26, O28–O37, O40–O46, O48, O60–O75, O85–O92, O95 or O98–O99 with a sixth digit of 1 or 2 OR Z37 coded in any position)
3. Instrument-assisted vaginal delivery (CCI code: 5.MD.53<sup>^^</sup>, 5.MD.54<sup>^^</sup>, 5.MD.55<sup>^^</sup>, 5.MD.56.NN, 5.MD.56.PC, 5.MD.56.NR, 5.MD.56.PF, 5.MD.56.NW or 5.MD.56.PJ)

### Exclusions:

1. Newborn, stillbirth or cadaveric donor records (Admission Category = N, R or S)
2. Records with invalid discharge date

## Denominator

3. Records with invalid age
4. Records with unknown or invalid (>45 completed weeks) gestational age
5. Caesarean sections (CCI code: 5.MD.60.<sup>^^</sup>)
6. Delivery in which an abortive procedure was recorded (code may be recorded in any position; procedures not coded as "abandoned after onset" [Intervention Status Attribute = A]):

CCI: 5.CA.20.<sup>^^</sup>, 5.CA.24.<sup>^^</sup>, 5.CA.88.<sup>^^</sup>, 5.CA.89.<sup>^^</sup>, or 5.CA.93.<sup>^^</sup>

OR

ICD-10-CA: O04

7. 2018–2019 data onward: Medical assistance in dying (MAID) (Discharge Disposition Code = 73)

**Description:**

Cases within the denominator with obstetric trauma

**Inclusions:**

Cases within the denominator with at least one obstetric trauma (any of the following conditions or interventions):

1. Third-degree perineal laceration during delivery, delivered, with or without mention of antepartum condition (ICD-10-CA: O70.201, O70.211, O70.221, O70.231, O70.281, O70.291)
2. Fourth-degree perineal laceration during delivery, delivered, with or without mention of antepartum condition (ICD-10-CA: O70.301)
3. Obstetric laceration of cervix, delivered, with or without mention of antepartum condition (ICD-10-CA: O71.301)
4. Obstetric high vaginal laceration alone, delivered, with or without mention of antepartum condition (ICD-10-CA: O71.401)
5. Other obstetric injury to pelvic organs, delivered, with or without mention of antepartum condition (ICD-10-CA: O71.501)
6. Other rupture of uterus during labour, delivered, with or without mention of antepartum condition (ICD-10-CA: O71.181)
7. Obstetric damage to pelvic joints and ligaments, delivered, with or without mention of antepartum condition (ICD-10-CA: O71.601)
8. Surgical repair, postpartum, of obstetric laceration:
  - a. Of corpus uteri (CCI code: 5.PC.80.JH)
  - b. Of current obstetric laceration of cervix occurring at vaginal delivery (CCI code: 5.PC.80.JJ)
  - c. Of current obstetric laceration of bladder and urethra (CCI code: 5.PC.80.JR)
  - d. Of current obstetric laceration of rectum and sphincter ani (CCI code: 5.PC.80.JQ)
  - e. Of current obstetric high vaginal laceration (CCI code: 5.PC.80.JU)
  - f. Of current obstetric laceration of broad ligament(s) of uterus (CCI code: 5.PC.80.JL)

Numerator

**Background, Interpretation and Benchmarks**

Obstetric trauma is among the most common adverse events in Canada. Obstetric trauma, including lacerations that are third degree and greater in severity, may result in longer lengths of stay for mothers, as well as chronic complications such as fecal incontinence, dyspareunia, perineal pain and other pelvic floor disorders.

Rationale

Risk factors for obstetric trauma include prolonged pregnancy, long labour, malposition and maternal age. One of the most significant and potentially modifiable risk factors for obstetric trauma is the use of instruments during vaginal delivery. By ensuring appropriate training and adherence with best practice guidelines during instrument-assisted deliveries, hospitals can potentially reduce the risk of obstetric trauma.

The obstetric trauma indicators are intended to be used as flags to identify areas for improvement and to help identify processes of care that require hospital-level evaluation.

Interpretation

A lower rate is more desirable.

HSP Framework Dimension

Health System Outputs: Safe

Areas of Need

Getting Better

Targets/Benchmarks Not applicable

Canadian Institute for Health Information. Patient Safety in Canada: An Update. Available at [https://secure.cihi.ca/free\\_products/Patient\\_Safety\\_AIB\\_EN\\_070814.pdf](https://secure.cihi.ca/free_products/Patient_Safety_AIB_EN_070814.pdf). Updated August 14, 2007. Accessed February 12, 2014.

OECD. Health at a Glance 2013: OECD Indicators. Available at [http://dx.doi.org/10.1787/health\\_glance-2013-en](http://dx.doi.org/10.1787/health_glance-2013-en). Published November 21, 2013. Accessed February 12, 2014.

References

Groutz A, Hasson J, Wengier A, et al. *Third- and fourth-degree perineal tears: Prevalence and risk factors in the third millennium*. *Am J Obstet Gynecol*. 2011;204(4): 347e1-347e4.

Handa VL, Blomquist JL, McDermott KC et al. *Pelvic floor disorders after childbirth: Effect of episiotomy, perineal laceration, and operative birth*. *Obstet Gynecol*. 2012;119(2 Pt 1):233-239.

**Availability of Data Sources and Results**

Data Sources

DAD, HMDB

**Type of Year:**

Fiscal

**First Available Year:**

Available Data Years 2013  
**Last Available Year:**  
2017

Geographic Coverage All provinces/territories

Reporting Level/Disaggregation National, Province/Territory, Region, Facility

Result Updates

Update Frequency Every year

**Web Tool:**  
Your Health System: In Depth

Indicator Results **URL:**  
[Accessing Indicator Results on Your Health System: In Depth](#)

Updates Not applicable

Quality Statement

Caveats and Limitations Not applicable

Trending Issues Not applicable

Indicator results are also available in

Comments

- [Your Health System: Insight](#), updated monthly starting from 2013–2014