

# Diagnosis of labour dystocia

## Clinical question

What is the definition and diagnosis of labour dystocia?

## Search strategy

- Time period: 1990-2009
- Search terms: Labour dystocia, abnormal labour, uterine inertia, labour obstruction, prolonged labour, guidelines/practice guidelines
- Databases searched: MEDLINE (Ovid SP); EMBASE; Cochrane CDSR, CENTRAL, & DARE, Geneva Medical Foundation.
- Titles reviewed – 181; abstracts reviewed – 74; papers reviewed – 68; papers meeting eligibility for inclusion – 4.

## Definitions of labour dystocia

### 1. National Institute for Health and Clinical Excellence. NICE Clinical Guideline No. 55. Intrapartum Care. September, 2007

#### First stage

A diagnosis of delay in the established first stage of labour should consider:

- cervical dilatation of less than 2 cm in 4 hours for first labours
- cervical dilatation of less than 2 cm in 4 hours or a slowing in the progress of labour for second or subsequent labours
- descent and rotation of the fetal head
- changes in the strength, duration and frequency of uterine contractions

#### Second stage

Among nulliparous women, a diagnosis of delay should be made when it has lasted 2 hours and women should be referred to a healthcare professional trained to undertake an operative vaginal birth if birth is not imminent.

Among parous women, a diagnosis of delay should be made when it has lasted 1 hour and women should be referred to a healthcare professional trained to undertake an operative vaginal birth if birth is not imminent.

## 2. The Ottawa's Hospital Clinical Practice Guideline for the Second Stage of Labour. September, 2006

### Second Stage Dystocia:

#### Nulliparous without epidural

- two hours active pushing without imminent delivery (active pushing starts when fully dilated and urge to push)
- total length of second stage > 3 hours and birth not imminent

#### Multiparous without epidural

- one hour active pushing without imminent delivery (active pushing starts when fully dilated and urge to push)
- total length of second stage > 2 hours and birth not imminent

#### Nulliparous with epidural

- two hours active pushing without imminent delivery (active pushing starts when: fully dilated and head visible OR urge to push AND station > +2 AND OA, ROA, LOA)
- total length of second stage > 4 hours and birth not imminent

#### Multiparous with epidural

- two hours active pushing without imminent delivery (active pushing starts when: fully dilated and head visible OR urge to push OR station > +2 AND OA, ROA, LOA)
- total length of second stage > 3 hours and birth not imminent

## 3. ACOG Practice Bulletin: Dystocia and Augmentation of Labour, Number 49, International Journal of Gynecology and Obstetrics; 2003, December

### Dystocia

Dystocia is defined as abnormal labor that results from what have been categorized classically as abnormalities of the power (uterine contractions or maternal expulsive forces), the passenger (position, size, or presentation of the fetus), or the passage (pelvis or soft tissues). The diagnosis of dystocia should not be made before an adequate trial of labour has been achieved.

### Second Stage Arrest

In a nulliparous woman, the diagnosis of a prolonged second stage should be considered when the second stage exceeds 3 hours if regional anesthesia has been administered or 2 hours if no regional anesthesia is used. In multiparous women, the diagnosis can be made when the second stage exceeds 2 hours if no regional anesthesia is used or 1 hour without.

#### 4. SOGC Policy Statement No. 40 “Dystocia”, October 1995

##### **Primary Dystocia**

Dystocia without the presence of absolute cephalopelvic disproportion should not be diagnosed until the cervix in a primigravid woman has reached three to four cms and is 80 to 90 percent effaced; and three to four cms and 70 to 80 percent effaced in multiparous woman. The diagnosis requires lack of progressive cervical dilatation (< 0.5 cms/hour) assessed over a four-hour period.

##### **Secondary Arrest**

Secondary arrest is defined as the arrest of progress in the active phase, either in the first or second stage for two or more hours. Arrest in the second stage is also determined by a failure in descent of the presenting part.

### **Limitations**

1. There is wide variation internationally for both the nomenclature and diagnostic criteria for labour dystocia. In Canada, the SOGC guideline dates back to 1995. The ACOG guideline lacks clear defining criteria for first stage. SOGC and NICE guidelines specify the attainment of “active” or “established” labour as a prerequisite to diagnosis of labour dystocia. ACOG requires an “adequate trial of labour” but fails to specify what that means.
2. All of the guidelines lack in adequate citing of evidence/references to support their specific nomenclature and preferred diagnostic criteria. The Ottawa Hospital Second Stage Guideline alone is based on an extensive though not systematic review of existing guidelines and associated literature.

### **Conclusions and recommendations**

There is great variation in international jurisdictions regarding the terminology and objective criteria used to define and diagnose labour dystocia. Organizations wishing to address dystocia as an indicator for cesarean section need to agree on diagnostic criteria.

Summary of the evidence

	First Stage		Second Stage	
	Nulliparous	Multiparous	Nulliparous	Multiparous
<b>NICE: Intrapartum Care, 2007</b>	After cx 4 cm dilated, cx dilation < 2 cm in 4 hours	After cx 4 cm dilated, < 2 cm in 4 hours OR a slowing in the progress of labour	Active second stage $\geq$ 2 hours and birth not imminent	Active second stage $\geq$ 1 hour and birth not imminent
<b>The Ottawa Hospital: Second Stage Guidelines, 2006</b>	Not applicable	Not applicable	<ul style="list-style-type: none"> <li>• 2 hours active pushing and delivery not imminent, or</li> <li>• 2nd stage &gt; 3 hours and delivery not imminent (no epidural)</li> <li>• 2nd stage &gt; 4 hours and delivery not imminent (with epidural)</li> </ul>	<ul style="list-style-type: none"> <li>• 1 hour active pushing and delivery not imminent or 2nd stage &gt; 2 hours and birth not imminent (no epidural)</li> <li>• 2 hours active pushing and delivery not imminent or 2nd stage &gt;3 hours and birth not imminent (with epidural)</li> </ul>
<b>ACOG Practice Bulletin, 2003</b>	An adequate trial of labour	An adequate trial of labour	> 3 hours with regional anesthesia or 2 hours without.	> 2 hours with regional anesthesia or 1 hour without
<b>SOGC Policy Statement, 1995</b>	After cx 4 cms dilated and 80 - 90% effaced, cx dilation < 0.5 cm/hour over four hours	After cx 3-5 cms dilated and 70 – 80% effaced, cx dilation < 0.5 cm/hour over four hours	Arrest of descent for 2 hours	Arrest of descent for 2 hours